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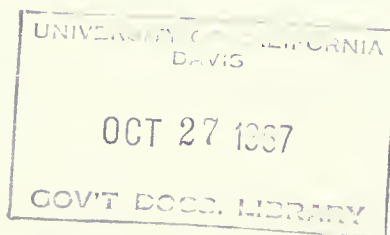
BULLETIN No. 69-66

CALIFORNIA HIGH WATER 1965-1966



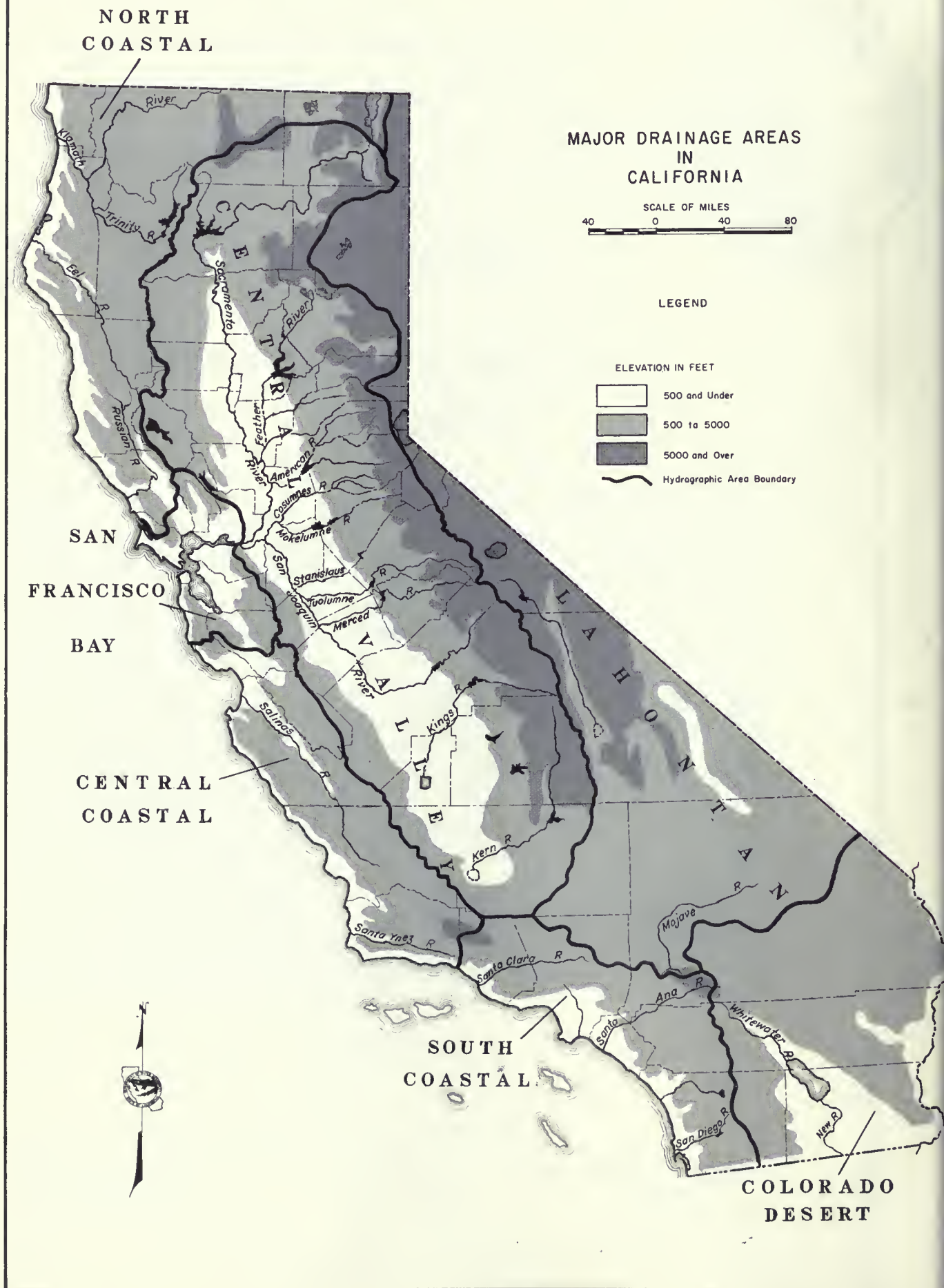
AUGUST 1967

RONALD REAGAN
Governor
State of California



WILLIAM R. GIANELLI
Director
Department of Water Resources

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FOREWORD

Bulletin No. 69-66, the fourth of an annual series, provides, in one report, information on the meteorology, rainfall-runoff, and damages resulting from the major storms of the 1965-66 water year. It describes the general weather patterns preceding and during storm periods, including precipitation characteristics and discusses the resulting runoff in the seven hydrograph areas of the State (Plate 1). It presents information on flooded areas and damages.

Data for this bulletin were supplied by the U. S. Weather Bureau, U. S. Geological Survey, U. S. Army Corps of Engineers, U. S. Bureau of Reclamation, and many other agencies, both private and public. Their cooperation is gratefully acknowledged.

William R. Gianelli

William R. Gianelli, Director
Department of Water Resources
The Resources Agency
State of California
June 28, 1967

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

RONALD REAGAN, Governor
WILLIAM R. GIANELLI, Director, Department of Water Resources
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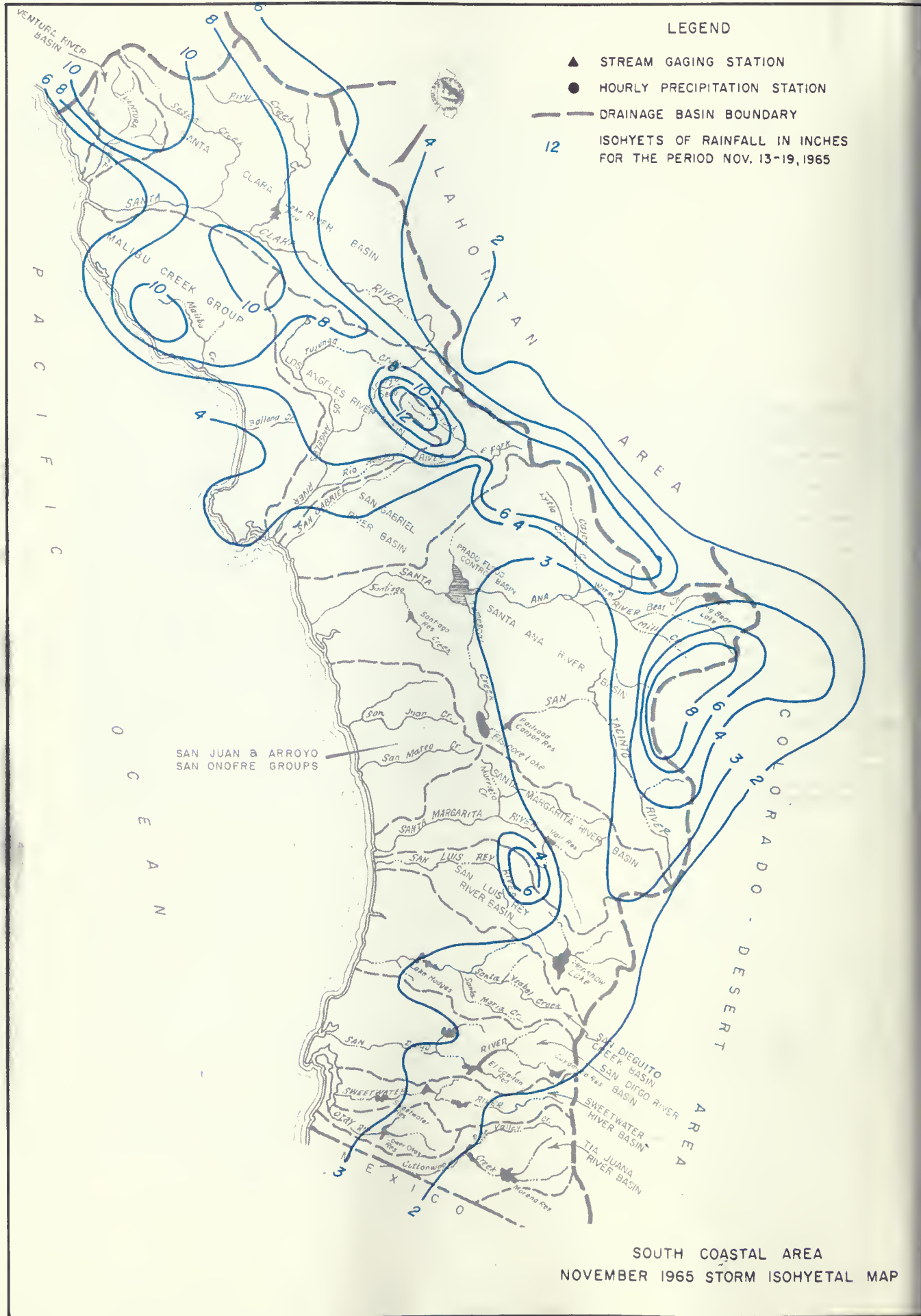
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ABSTRACT

Accelerated growth in the postwar period has resulted in extensive development of the flood plains of the State. Recurrent floods have subjected these developments to intensive damage. The recent and past flood experiences indicate additional flood protection must be provided as rapidly as possible. / The 1965-66 water year was notable for the record-breaking amounts and intensities of precipitation which occurred at many locations throughout Southern California during the November-December 1965 storms. Two storms during November recorded a total of 30 inches of precipitation and a one-day maximum of 12.4 inches at a station in the Santa Ana River Basin. / The response of streamflows to the heavy rains during November and December was immediate and intense. On most streams in the Southern California drainage basins, the maximum flows did not compare to the record flows of 1938. However, damages resulting from the high levels of runoff and resultant flooding were severe. Four counties in Southern California, San Diego, San Bernardino, Riverside, and Ventura, were proclaimed as disaster areas. There was widespread destruction of public and private property, transportation and communication facilities, and utilities. Fourteen deaths were attributed to the November-December storms and floods. / Flood damage estimates by the U. S. Army Corps of Engineers, County flood control districts, and county civil defense offices amounted to over \$13 million. The damage figures, though great, would have been much larger had it not been for the operation of flood control facilities. / The North Coast area of California was hammered by a storm which struck on January 4. Rail and highway traffic was blocked in areas, leaving thousands of travelers stranded. / The streams rose rapidly, and the lowlands were flooded. Road closures followed the flooding and many communities, such as Shively, Holmes, Ferndale, Hoopa, and Orleans, were completely isolated. Thousands of persons evacuated their homes ahead of the rising Eel River, Redwood Creek, Russian, and Van Duzen Rivers. / Humboldt County received the greatest damage in the North Coastal area, and the Governor proclaimed the County a disaster area. / The January 1966 flood did not compare to the unprecedented Christmas week, 1964, flood; streamflows during January 1966 were well below the record levels. However, because flood control structures are virtually nonexistent in the North Coast area, there was again widespread damage and destruction. Information compiled by the Humboldt County Civil Defense Office and other county agencies, federal agencies, and the State Department of Water Resources indicate damages near \$7 million occurred in Humboldt County.



Southern California Storms of November and December 1965

Major November floods in Southern California resulted from unprecedented rainfall. A low pressure trough, firmly entrenched off the California coast, provided a southerly storm track across the State. This condition set the stage for two major storms: the first between the 13th and 19th and the second between the 21st and 26th.

The first storm (Plate 2) began with the movement of a cold front into the area. This front became quasi-stationary south of San Diego on the 15th and continued in this position for several days. Overrunning of the warm air mass over the sloping frontal surface sustained the uplift of moist air to produce heavy rainfall.

After a three-day lull, a wave formed on the frontal system and caused the second storm (Plate 3). While the rainfall during this second storm was not as heavy as that during the first, the fact that the second storm followed so closely contributed to increased runoff.

The low pressure trough remained off the west coast during December. On December 9, a wave on a cold front situated south of San Diego brought the first rain. The arrival of a second front on the 11th as well as the presence of the residual low pressure center maintained the rainy period through the 16th. Another brief rainy period occurred on the 21st and 22nd. A front moving into Southern California on the 28th brought the final storm of the month; rain fell heaviest on the 29th (Plate 4).

The December storm snow level was lower than that of the warmer November storm. At Palomar Observatory (elevation 5,545 feet) and Mt. Wilson (5,709 feet) snow fell between December 13th and 16th. Some snow also fell at Sanberg (4,517 feet) on the same days. The snow level lay at about 6,000 feet until the 12th but had lowered to 4,000 feet by the 16th.

Northern California Storm of January 1966

During January 1966, the displacement of westerlies southward caused a strong onshore flow of moist air over Washington, Oregon, and Northern California.

On January 2, a cold front moved into the North Coast. On the 3rd, a wave formed on the trailing end of the front west of Crescent City and that night moved inland. Another followed on the 5th. The passage of these weather systems across Northern California brought seven days of rain. The direction of upper level flow (removed from effects of terrain) between the 2nd and the 6th was from the southwest and moderately strong. The heaviest precipitation fell between the 3rd and the 5th.

Initially the air mass over the North Coast was rather cool; the snow lay at about 3,000 feet. Although the snow level lifted during the course of the storm (a fact reported by radio soundings taken twice daily at Medford, Oregon) many of the inland stations reported accumulations of snow in valleys and canyons.

Mt. Shasta City (elevation 3,587 feet) reported 26 inches of snow on January 2 and 3; 45 inches on January 4; and 51 inches on January 5. Thus, while warmer air flowed over the area aloft, a deep, low lying layer of cold air changed the raindrops to snow flakes and deposited heavy snow in the northern interior mountains.

-2-

RAINFALL-RUNOFF

Throughout most of California the precipitation season extends from September through May; most flood-producing storms occur between November and April. During this period, moist air masses move inland across the State from the west and are lifted over the mountain ranges. Heavy precipitation frequently results. This precipitation usually occurs as rain in the valleys and lower mountains and as snow in the higher mountains. When the air is warm, rain falls even at very high elevations.

Floods in California originate from rains or snowmelt in the mountains. Snowmelt floods occur when extraordinarily warm spring temperatures melt a heavy snowpack; they occur mostly in the San Joaquin Valley. Rain floods occur south of the Tehachapi Mountains and along the Coastal Ranges where flows peak quickly in the steep basins. Floods of both types occur along the Cascade and Sierra Nevada Mountains; here both rainfall and snowfall are heavy.

Precipitation throughout California during the 1965-66 water year varied from below normal to extremely high, record-

breaking peaks. In the mountains of Southern California, where the most intense rains fell, several stations reported over 30 inches of rainfall in November.

Runoff in Southern California during the November and December storms ranged from moderate to high. At many stations, streamflow was the greatest since 1943; at others, it broke record peaks.

In the North Coastal Hydrographic area, periodically subject to severe storms and heavy runoff, the January 1966 rainfall-runoff was relatively moderate. However, because of unprotected development in the flood plain and the lack of flood control works in the area, damaging floods occurred.

Although there was no flooding in the Sacramento Valley, the upper Sacramento River and tributaries rose sharply following heavy precipitation in the northern mountains during the first week of January 1966. At Tisdale, Colusa, and Moulton Weirs, the Sacramento River overflowed into Sutter Bypass.

South Coastal Hydrographic Area

With the exception of 0.01 inch recorded at Santa Maria and 0.12 inch at Santa Barbara, no rain fell in the South Coastal Hydrographic area during October, 1965.

The two major storms of November have been reported earlier. At Los Angeles, San Bernardino, and San Diego, November rains were heavier than ever before recorded -- and records go back more than 90 years. In Los Angeles, the earlier high was 6.53 inches; in 1965, it was 9.68 inches. In San Bernardino, the earlier high was 7.50 inches; in 1965, it was 8.11 inches. In San Diego, the earlier high was 4.93 inches; in 1965, it was 5.82 inches. And at Opids Camp, in the San Gabriel Mountains, 37.92 inches of rain fell between November 14 and 25.

Burbank and San Diego experienced the wettest December since 1943. San Diego was deluged with intense rain; on December 10, the 1.36 inches that fell during a single hour set a new record. On December 29, Mt. Baldy Notch precipitation station reported 15.15 inches, the highest one-day rainfall recorded at any Southern California station. On the same day, Burbank station reported 5.30 inches of rain, the highest one-day December rainfall at that station.

Table 3 provides November and December rainfall data from selected precipitation stations and Plate 4 locates both precipitation and stream gaging stations in Southern California.



Table 1: Precipitation Comparison for Six Storms: North Coastal and Sacramento Valley Basins**

| Station | One Day | | | | | | Two Days | | | | | | Three Days | | | | | | Four Days | | | | | |
|--------------------------|-------------|-------------|--------------|--------------|--------------|-----------|-------------|-----------|--------------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|
| | Dec. 1955 | Feb. 1960 | Oct. 1962 | Jan-Feb 1963 | Dec. 1964 | Jan. 1966 | Dec. 1955 | Feb. 1960 | Oct. 1962 | Jan-Feb 1963 | Dec. 1964 | Jan. 1966 | Dec. 1955 | Feb. 1960 | Oct. 1962 | Jan-Feb 1963 | Dec. 1964 | Jan. 1966 | Dec. 1955 | Feb. 1960 | Oct. 1962 | Jan-Feb 1963 | Dec. 1964 | Jan. 1966 |
| North Coast | | | | | | | | | | | | | | | | | | | | | | | | |
| Alderpoint | 5.06 | 3.66 | 3.85 | 3.70 | <u>5.85</u> | 4.95 | 6.96 | 6.46 | 6.30 | 6.40 | <u>10.35</u> | 8.11 | 7.76 | 6.85 | 6.45 | 7.68 | <u>13.60</u> | 10.11 | 9.51 | 9.65 | 10.95 | 6.16 | <u>14.70</u> | 11.37 |
| Cummings | 7.00 | 6.00 | 4.03 | 5.08 | <u>11.80</u> | 6.24 | 13.00 | 10.42 | 7.64 | 7.65 | <u>18.04</u> | 8.98 | 12.20 | 12.84 | 11.01 | 9.83 | <u>22.70</u> | 11.40 | 15.90 | 14.00 | 13.68 | 10.59 | <u>25.44</u> | 18.80 |
| Georgetown | <u>7.82</u> | 3.65 | 3.88 | 2.47 | 6.35 | 6.72 | 10.19 | 6.52 | 6.32 | 4.43 | 10.39 | <u>11.87</u> | 11.39 | 9.01 | 6.20 | 5.10 | <u>13.90</u> | 13.27 | 14.02 | 10.16 | 9.29 | 7.06 | <u>17.16</u> | <u>20.76</u> |
| Mad River NS | 4.04 | 3.80 | 3.94 | 4.63 | <u>7.87</u> | 4.82 | 7.55 | 7.25 | 6.67 | 6.93 | <u>14.77</u> | 6.30 | 9.77 | 10.23 | 6.23 | -- | -- | <u>10.47</u> | 12.44 | 11.45 | 10.96 | -- | <u>21.07</u> | 11.75 |
| Orleans | 3.50 | 2.70 | 3.23 | 1.98 | <u>7.38</u> | 3.60 | 6.55 | 5.38 | 4.89 | 3.58 | <u>11.07</u> | 6.35 | 7.54 | 7.90 | 6.15 | 5.09 | <u>13.63</u> | 7.97 | 9.46 | 8.52 | 7.83 | 5.50 | <u>14.20</u> | 6.96 |
| Scottia | <u>5.39</u> | 2.05 | 1.93 | 1.86 | 5.13 | 3.89 | 7.19 | 4.09 | 3.76 | 2.99 | <u>7.35</u> | 5.11 | 6.62 | 5.47 | 5.01 | 4.46 | <u>9.10</u> | 6.54 | <u>11.53</u> | 6.25 | 6.49 | 4.99 | 9.68 | 7.06 |
| Sacramento Valley | | | | | | | | | | | | | | | | | | | | | | | | |
| Cloverdale 3 S&E | 6.25 | 3.30 | <u>8.37</u> | 3.30 | 3.97 | 4.69 | 9.08 | 4.30 | <u>11.30</u> | 6.33 | 7.82 | 6.54 | 9.75 | 4.80 | <u>11.77</u> | 9.07 | 10.19 | 7.01 | <u>14.80</u> | 5.21 | 11.82 | 9.26 | 11.27 | 7.22 |
| Guerreroville | 7.68 | <u>8.40</u> | 5.30 | 3.03 | 3.70 | 5.70 | <u>9.81</u> | 9.44 | 7.58 | 5.89 | 6.45 | 7.52 | <u>10.18</u> | 10.16 | 8.40 | 8.71 | 7.57 | 9.04 | <u>14.84</u> | 10.68 | 8.82 | 8.81 | 8.66 | 9.40 |
| Hendburg | 3.73 | 2.66 | 4.89 | <u>5.08</u> | 4.28 | 4.98 | 6.65 | 4.71 | 6.34 | <u>9.27</u> | 6.35 | 6.83 | 7.66 | 5.17 | 9.64 | <u>10.75</u> | 9.50 | 7.36 | 9.98 | 5.72 | 10.52 | <u>11.12</u> | 10.24 | 7.79 |
| Saint Helena | <u>5.76</u> | 4.30 | 5.98 | 4.63 | 4.02 | 3.79 | 7.99 | 6.00 | <u>9.08</u> | 6.16 | 7.60 | 6.85 | 9.08 | 7.19 | <u>10.64</u> | 9.45 | 9.14 | 6.96 | <u>12.18</u> | 7.46 | 11.29 | 9.87 | 9.49 | 6.97 |
| Sacramento Valley | | | | | | | | | | | | | | | | | | | | | | | | |
| Red Bluff NB AP | .96 | 1.26 | <u>1.90</u> | 1.23 | 1.08 | 1.77 | 1.79 | 1.47 | <u>3.16</u> | 2.41 | 1.89 | 2.59 | 2.45 | 1.59 | 3.42 | <u>3.46</u> | 1.95 | 2.63 | 2.73 | 1.81 | <u>3.51</u> | 3.49 | 2.41 | -- |
| Shasta Dam | 8.24 | 5.18 | 3.54 | 2.64 | <u>11.64</u> | 4.16 | 12.28 | 4.26 | 6.22 | 5.01 | <u>15.22</u> | 6.20 | 16.23 | 5.04 | 7.59 | 6.27 | <u>18.80</u> | 7.65 | <u>22.15</u> | 5.66 | 10.27 | 6.56 | 21.38 | 8.63 |
| Packman NB | 2.42 | 1.37 | 2.15 | 2.65 | <u>3.04</u> | 1.95 | 3.48 | 1.83 | 3.38 | 3.80 | <u>4.41</u> | 2.70 | 4.43 | 2.25 | 3.64 | 3.65 | <u>4.83</u> | 2.90 | <u>5.23</u> | 2.31 | 4.06 | 3.65 | 5.10 | 2.92 |
| Sacramento NB | <u>2.34</u> | 0.66 | 3.63 | 1.70 | 1.79 | 0.94 | 5.81 | 1.25 | <u>5.80</u> | 3.09 | 2.92 | 1.18 | 4.11 | 1.45 | <u>6.62</u> | 3.60 | 3.38 | 1.53 | 5.16 | 1.45 | <u>6.82</u> | 3.65 | 3.72 | 1.53 |
| Haywards | 2.27 | 0.69 | <u>4.24</u> | 2.03 | 0.74 | 1.39 | 4.10 | 0.90 | <u>7.22</u> | 3.38 | 1.10 | 1.68 | 4.31 | 0.95 | <u>9.26</u> | 3.38 | 1.37 | 1.83 | 5.45 | 1.50 | <u>9.31</u> | 3.69 | 1.63 | 1.90 |
| Brush Creek | 6.68 | 8.55 | <u>11.40</u> | 4.99 | 9.41 | 5.70 | 11.93 | 10.89 | <u>18.75</u> | 9.78 | 14.56 | 7.45 | 13.64 | 11.05 | <u>23.70</u> | 12.55 | 16.76 | 9.04 | 18.08 | 11.88 | <u>25.92</u> | 12.95 | 20.76 | 9.98 |
| Blue Canyon NB AP | 7.44 | 5.50 | 7.37 | 8.70 | <u>9.33</u> | 2.08 | 13.36 | 10.41 | 13.81 | 13.96 | <u>15.24</u> | 4.06 | 18.55 | 12.06 | 19.55 | 16.01 | <u>19.72</u> | 4.07 | 20.66 | 12.55 | 22.02 | 17.58 | <u>22.93</u> | 4.07 |

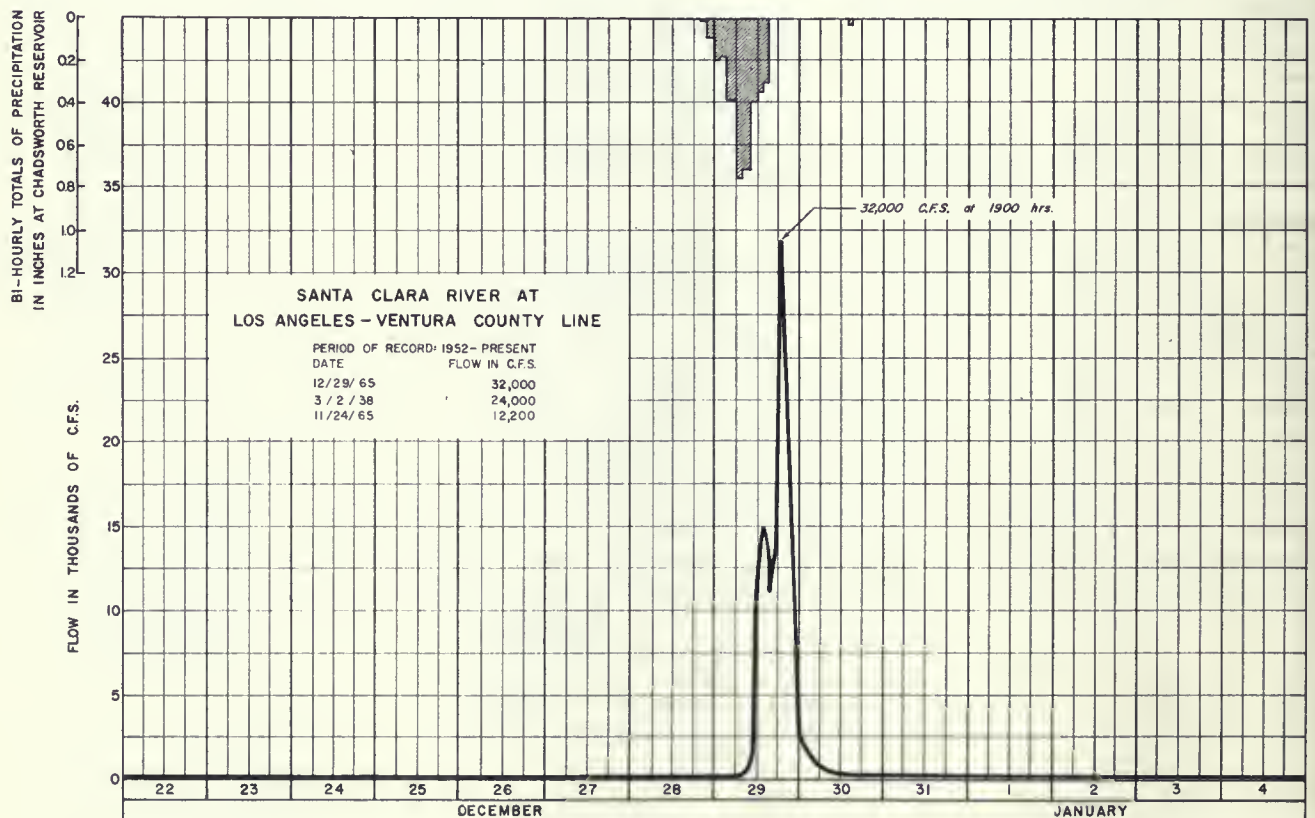
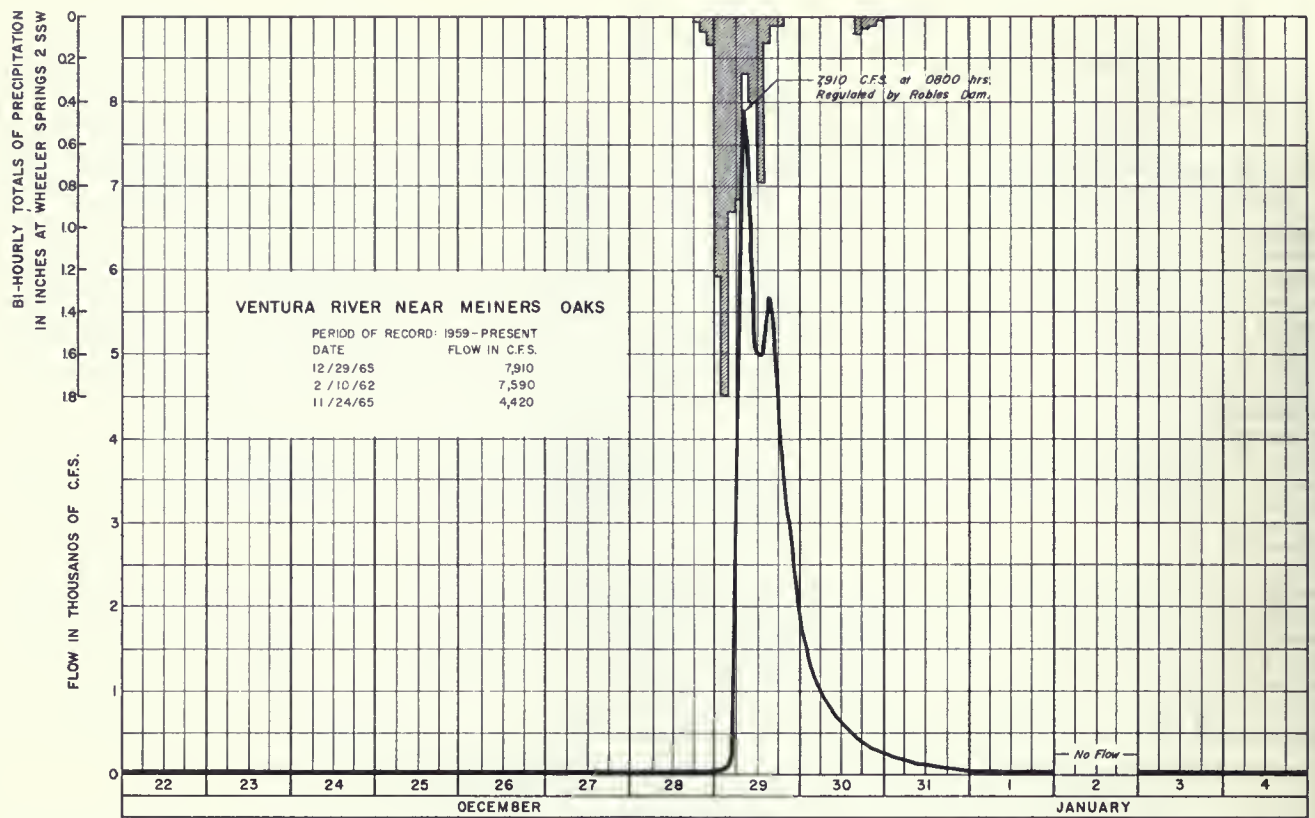
Table 2: Precipitation Comparison for Six Storms: San Joaquin, Central Coast and Southern California Basins***

| Station | One Day | | | | | | Two Days | | | | | | Three Days | | | | | | Four Days | | | | | |
|-----------------------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-------------|-------------|-----------|--------------|-------------|--------------|-----------|-------------|-----------|-------------|-------------|--------------|-----------|-------------|-----------|-------------|-------------|
| | Mar. 1958 | Nov. 1946 | Jan. 1952 | Feb. 1958 | Nov. 1965 | Dec. 1965 | Mar. 1958 | Nov. 1946 | Jan. 1952 | Feb. 1958 | Nov. 1965 | Dec. 1965 | Mar. 1958 | Nov. 1946 | Jan. 1952 | Feb. 1958 | Nov. 1965 | Dec. 1965 | Mar. 1958 | Nov. 1946 | Jan. 1952 | Feb. 1958 | Nov. 1965 | Dec. 1965 |
| San Joaquin Basin | | | | | | | | | | | | | | | | | | | | | | | | |
| Presno NB | <u>2.02</u> | .64 | 1.74 | 1.11 | .57 | .55 | <u>2.84</u> | .85 | 1.81 | 1.54 | .86 | .79 | <u>3.63</u> | .65 | 1.81 | 1.54 | 1.32 | 1.02 | <u>3.05</u> | 1.53 | 1.81 | 1.54 | 1.98 | 1.06 |
| Tosmita NF | <u>3.23</u> | 2.58 | 1.90 | 2.45 | 2.52 | 2.63 | 4.54 | <u>3.13</u> | 3.68 | 3.25 | 3.74 | 4.09 | <u>5.74</u> | 5.13 | 3.63 | 3.55 | 4.48 | 5.13 | <u>7.25</u> | 5.13 | 3.66 | 3.67 | 5.72 | 5.13 |
| Springville | 2.95 | <u>4.15</u> | 1.27 | 1.62 | .77 | 2.40 | <u>4.26</u> | 4.71 | 2.39 | 3.25 | 1.54 | 3.17 | <u>6.32</u> | 4.71 | 2.49 | 3.26 | 2.01 | 4.14 | <u>7.56</u> | 7.25 | 2.91 | 3.26 | 2.47 | 4.71 |
| Central Coast | | | | | | | | | | | | | | | | | | | | | | | | |
| Los Gatos | 1.89 | 3.15 | <u>4.82</u> | 2.91 | 1.02 | 1.22 | 5.11 | 3.52 | <u>6.66</u> | 4.24 | 1.93 | 2.33 | 5.27 | 5.52 | <u>7.23</u> | 4.65 | 2.47 | 2.98 | 3.32 | 4.40 | <u>5.12</u> | 5.30 | 3.04 | 3.50 |
| Salinas CAA | .65 | 0 | 1.30 | 1.00 | 1.23 | .79 | 1.30 | 0 | 1.50 | 1.06 | 1.41 | <u>1.52</u> | 1.52 | 0 | 1.79 | 1.12 | 1.41 | <u>2.22</u> | 1.65 | 0 | 2.20 | 1.19 | 2.34 | <u>2.85</u> |
| Pase Robles FAA | 1.25 | <u>2.45</u> | 1.02 | 1.04 | 1.85 | .90 | 2.48 | <u>2.51</u> | 1.30 | 1.99 | 2.42 | 1.44 | <u>7.15</u> | 2.51 | 1.53 | 1.99 | 2.89 | 1.62 | 3.26 | 2.96 | 2.04 | 1.99 | <u>3.30</u> | 2.00 |
| Southeast Desert | | | | | | | | | | | | | | | | | | | | | | | | |
| Beaumont LE | <u>6.25</u> | 1.86 | 1.62 | 2.37 | 2.85 | 1.00 | <u>7.15</u> | 2.90 | 2.45 | 3.47 | 4.72 | 1.67 | <u>8.90</u> | 3.17 | 3.75 | 3.70 | 4.95 | 1.67 | <u>2.30</u> | 3.43 | 3.86 | 3.70 | 5.51 | 1.90 |
| Fairmont | 4.00 | 1.98 | 4.74 | 1.54 | 3.75 | <u>4.31</u> | 5.15 | 3.11 | 5.50 | 2.70 | <u>5.75</u> | 5.75 | 5.64 | 4.06 | 5.62 | 3.98 | <u>6.30</u> | 5.77 | 5.64 | 4.35 | 6.18 | 3.98 | <u>7.15</u> | 5.88 |
| Palmdale AP | 2.39 | 1.14 | 2.44 | .82 | <u>2.32</u> | 1.04 | <u>3.15</u> | 2.16 | 2.44 | 1.03 | 2.57 | 1.04 | 4.08 | 2.28 | <u>4.16</u> | 1.10 | 2.82 | 1.06 | 4.16 | 2.38 | <u>4.16</u> | 1.10 | 2.89 | 1.06 |
| South Coastal Basins | | | | | | | | | | | | | | | | | | | | | | | | |
| Santa Maria NB | <u>1.23</u> | 1.08 | 1.20 | 1.21 | 1.88 | .80 | <u>2.25</u> | 1.30 | 2.21 | 1.53 | 2.18 | 1.47 | <u>2.51</u> | 1.41 | 2.23 | 1.53 | 2.24 | 1.69 | <u>2.51</u> | 1.54 | 3.07 | 2.53 | 2.52 | 1.63 |
| Cuyamaca | 7.65 | 2.95 | 2.72 | 2.48 | <u>9.60</u> | 3.56 | 10.14 | 5.72 | 5.09 | 4.03 | <u>10.69</u> | 3.55 | <u>11.08</u> | 4.05 | 5.66 | 4.41 | 10.99 | 3.59 | <u>13.54</u> | 4.45 | 5.77 | 4.41 | 11.90 | 4.27 |
| Riverside Fire Station #3 | -- | 1.29 | <u>1.68</u> | 1.31 | 1.46 | 1.01 | -- | 1.79 | 2.06 | 1.71 | <u>2.76</u> | 1.43 | -- | 1.94 | 2.94 | 1.91 | <u>2.96</u> | 1.45 | -- | 1.94 | 3.06 | 1.91 | <u>3.40</u> | 1.55 |
| La Mesa | 2.00 | 1.21 | 1.60 | 2.04 | 2.09 | <u>2.11</u> | 2.76 | 1.66 | 2.67 | 2.48 | <u>3.28</u> | 2.26 | <u>4.06</u> | 1.82 | 2.87 | 2.51 | 3.28 | 2.26 | <u>4.14</u> | 1.85 | 2.88 | 2.51 | 3.65 | 2.31 |
| Los Angeles AF | <u>5.88</u> | 2.67 | 1.61 | 3.49 | 2.12 | 1.96 | <u>6.26</u> | 3.85 | 2.56 | 3.49 | 2.81 | 2.00 | <u>6.74</u> | 4.96 | 3.69 | 3.49 | 3.12 | 2.11 | <u>6.74</u> | 5.55 | 4.89 | 3.49 | 3.55 | 2.15 |
| Santa Barbara | 3.59 | 2.15 | <u>5.22</u> | 3.10 | 3.49 | 2.06 | 5.82 | 2.33 | <u>6.74</u> | 3.80 | 4.05 | 2.40 | 6.38 | 2.33 | <u>6.24</u> | 4.25 | 4.76 | 2.84 | 6.38 | 3.68 | <u>8.72</u> | 4.41 | 5.08 | 2.91 |
| Onard | 3.30 | <u>4.30</u> | 3.22 | 2.96 | 2.51 | 1.25 | 4.96 | <u>5.28</u> | 4.16 | 3.04 | 3.39 | 2.11 | 4.96 | 6.18 | <u>6.30</u> | 3.04 | 4.76 | 2.22 | 4.96 | 6.25 | <u>7.24</u> | 3.04 | 5.22 | 2.22 |
| San Diego NB | 1.56 | .68 | 1.29 | 1.37 | 1.53 | <u>2.15</u> | 2.27 | 1.15 | 1.76 | 1.94 | 2.32 | <u>3.15</u> | 2.80 | 1.20 | 2.29 | 2.00 | 2.72 | <u>3.16</u> | 2.89 | 1.24 | 2.29 | 2.00 | 2.86 | <u>3.67</u> |

* This value includes rain on January 1, 1966, at some precipitation stations.

** Dates of Storm Periods Used: Dec. 15-31, 1955
Feb. 6-10, 1960
Oct. 9-14, 1962
Jan. 29-Feb. 2, 1963
Dec. 18-31, 1964
Jan. 1-6, 1965*** Dates of Storm Periods Used: Mar. 1-15, 1958
Nov. 6-24, 1946
Jan. 12-19, 1952
Feb. 2-5, 19-21, 1958
Nov. 14-26, 1965
Dec. 28-31, 1965

The underlined value is the maximum value for the six storms listed.



HYDROGRAPHS OF VENTURA AND SANTA CLARA RIVERS

Table 3: November and December Rainfall at Selected Southern California Precipitation Stations

| Precipitation Station and Basin | Rainfall Period (inclusive) | | Total Rainfall November (Inches) | Rainfall Period (inclusive) | | Total Rainfall December (Inches) |
|---|-----------------------------|------------------------|--|-----------------------------|------------------------|--|
| | Nov. 13-19 (Inches) | Nov. 21-26 (Inches) | | Dec. 9-16 (Inches) | Dec. 28-31 (Inches) | |
| Santa Ana River Basin | | | | | | |
| Santiago Dam | 3.82 | 4.62 | 8.44 | 2.30 | 2.04 | 4.35 |
| San Jacinto | 2.71 | 3.86 | 6.47 | 2.07 | 0.84 | 3.24 |
| Santa Clara River Basin | | | | | | |
| Santa Paula | 6.06 | 4.31 | 10.37 | 0.40 | 5.28 | 5.68 |
| Piedra Blanca Grd. Sta. | 10.79 | 9.79 | 20.58 | 0.42 | 8.00 | 8.42 |
| Ventura River Basin | | | | | | |
| Wheeler Springs 2SSW | 10.61 | 8.47 | 19.08 | 0.32 | 6.89 | 7.21 |
| Ojai | 8.33 | 5.45 | 13.78 | 0.52 | 5.43 | 5.95 |
| Los Angeles River Basin | | | | | | |
| Burbank WB Airport | 5.92 | 4.71 | 10.63 | 1.40 | 5.44 | 6.84 |
| San Gabriel Fire Dept. | 11.21 | 11.13 | 22.34 | 2.01 | 4.29 | 6.33 |
| San Gabriel River Basin | | | | | | |
| San Dimas Tanbark | 7.97 | 10.90 | 18.87 | 1.98 | 6.20 | 8.29 |
| Santa Fe Dam | 5.64 | 4.17 | 10.81 | 2.04 | 3.13 | 5.23 |
| Santa Margarita River Basin | | | | | | |
| Fallbrook | 3.30 | 5.40 | 8.80 | 3.70 | 1.40 | 5.50 |
| Anza | 3.28 | 5.46 | 8.74 | 1.81 | 0.80 | 3.13 |
| San Diego River Basin | | | | | | |
| Cuyamaca | 2.76 | 12.73 | 15.49 | 5.50 | 3.59 | 10.29 |
| El Capitan Dam | 6.30 | 4.74 | 7.04 | 2.51 | 1.15 | 4.26 |
| Sweetwater, Otay, and Tia Juana River Basins | | | | | | |
| Barrett Dam | 2.07 | 6.72 | 8.79 | 4.06 | 0.42 | 5.04 |
| Lower Otay Reservoir | 2.92 | 3.59 | 6.51 | 2.41 | 0.59 | 3.55 |

Santa Clara River Basin

The streams of the Santa Clara River basin drain about 1,600 square miles in the Pacific slopes north and west of the Los Angeles River. Although rains of the first November storm (13-19) saturated the area, runoff was light. It greatly intensified when rains of the second November storm (21-26) hit the already saturated area. Then, and again in late December, substantial peak flows occurred, those of December generally exceeding those of November.

In the Santa Clara River at Los Angeles-Ventura County line, (Plate 5) flow peaked at 12,200 cfs (cubic feet per second) on November 24; and 32,000 cfs on December 29. The latter flow is the highest recorded in the river -- 33 percent greater than that of the previous high in March 1938.

On November 24, in Sespe Creek near

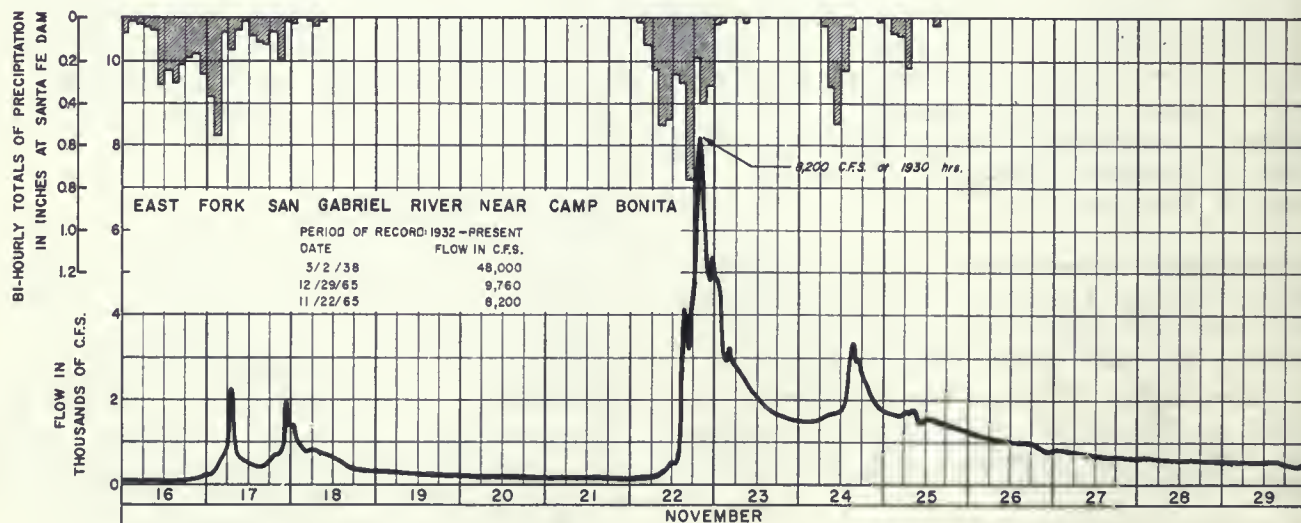
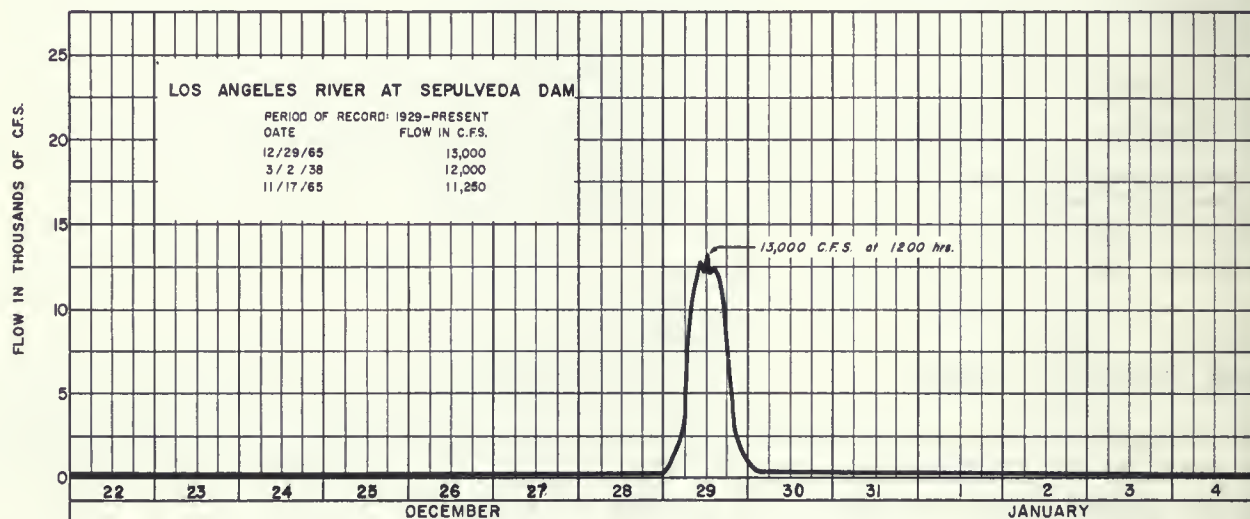
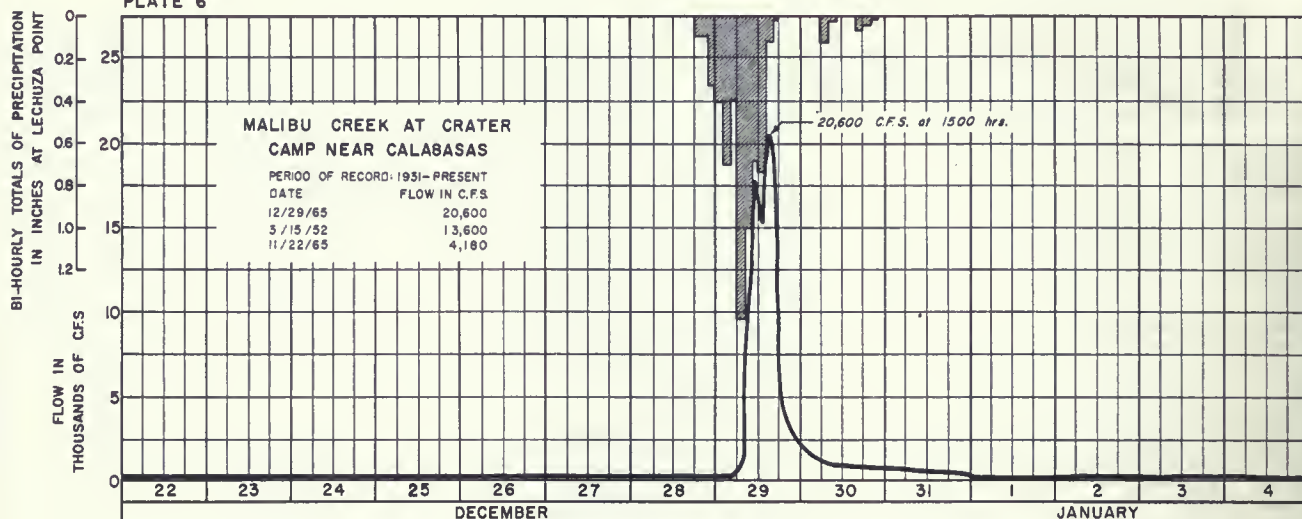
Fillmore, flow peaked at 19,600 cfs; and on December 29, at 21,500 cfs. These peaks were about 35 percent and 40 percent, respectively, of previous highs set in March 1938.

Lake Piru partially regulated peak flows on Piru Creek. Storage increased from 5,890 acre-feet on November 12, 1965, to 53,600 acre-feet on January 25, 1966. The lake has a total storage capacity of 101,000 acre-feet.

Ventura River Basin

Ventura River drains a relatively small basin of about 226 square miles. High flows in the basin are regulated by Casitas Reservoir on Coyote Creek. On December 1, this reservoir contained an all-time high of 58,159 acre-feet. Above the reservoir near Matilija Hot Springs, Matilija Creek flows peaked at 5,400 cfs on November 16 and at 5,540 cfs on December 29. These are lower than the

PLATE 6



HYDROGRAPHS OF MALIBU CREEK, LOS ANGELES AND SAN GABRIEL RIVERS

record 8,800 cfs flow of January 15, 1952. At the Ventura River near Ventura gage, flow peaked at 11,200 cfs on November 24, and at 10,700 cfs on December 29; the March 1938 peak was 39,200 cfs. Plate 5 presents a hydrograph of flow at the Ventura River near Meiners Oaks gage.

Malibu Creek Group

Malibu, Topanga, Ballona, Calleguas and Conejo Creeks drain an area of approximately 980 square miles. Although, on November 22, the flow in Malibu Creek at Cramer Camp near Calabasas (Plate 6) peaked at only 4,180 cfs, its December 29 peak of 20,600 cfs broke an earlier record of 13,600 cfs, set on March 15, 1952.

At Ballona Creek near Culver City, the November 22 peak of 17,000 cfs approached the 19,000 cfs record peak of March 2, 1938.

In the Topanga Creek Basin, December rains fell more heavily than those of November: the December 29 peak discharge was 6,000 cfs: that of November 22 was 1,750 cfs.

Los Angeles River Basin

The Los Angeles River Basin drains an area of approximately 822 square miles. Mountains and foothills cover half the area; valley and mesa, the other half.

Although the two November storms produced unusually high accumulated rainfall, the intensity of rainfall generally was moderate. Rain began about noon on November 14, continued steadily and moderately until midnight November 17, began again on November 21, and continued sporadically until the morning of November 25.

During December, rains fell lightly through December 9-17, and December 22-23, and intensified December 29 to January 1. Although rainfall totals were higher during November, some streams had higher peak flows in December because of reservoir releases.

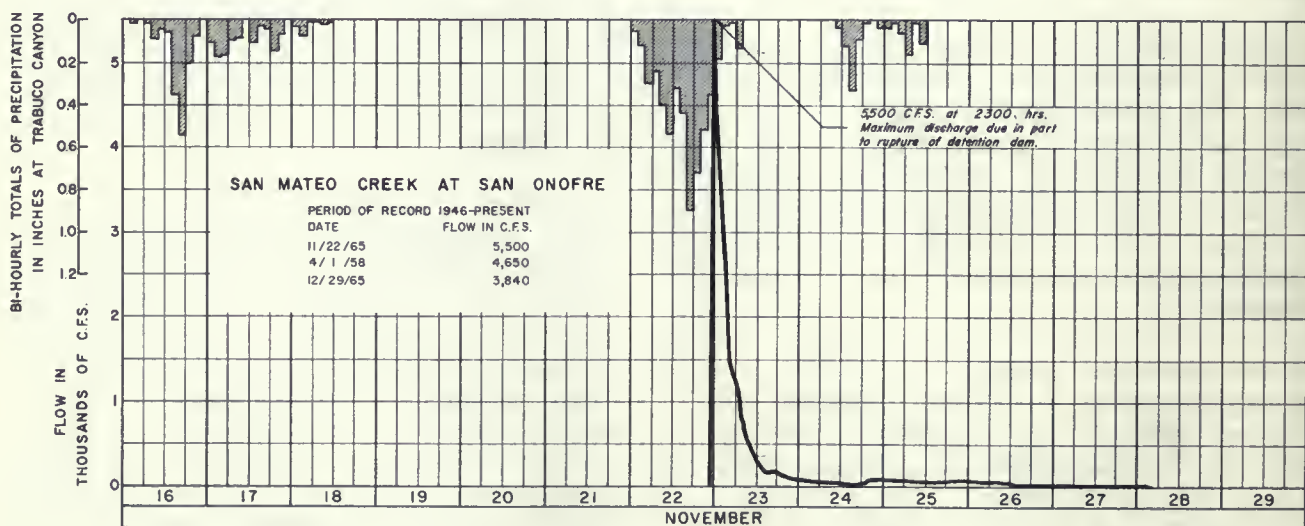
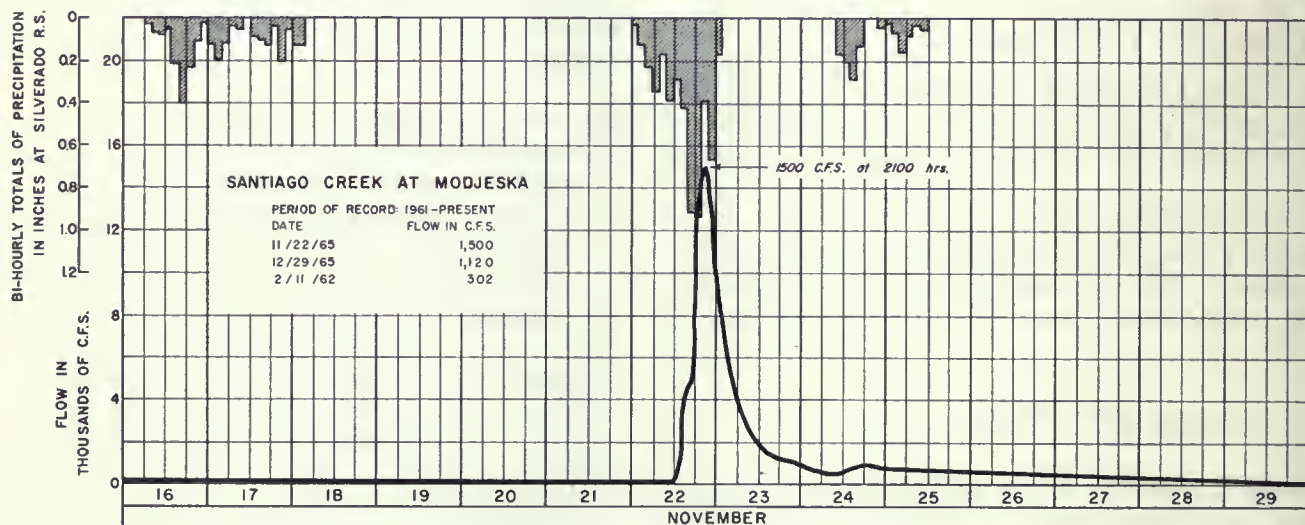
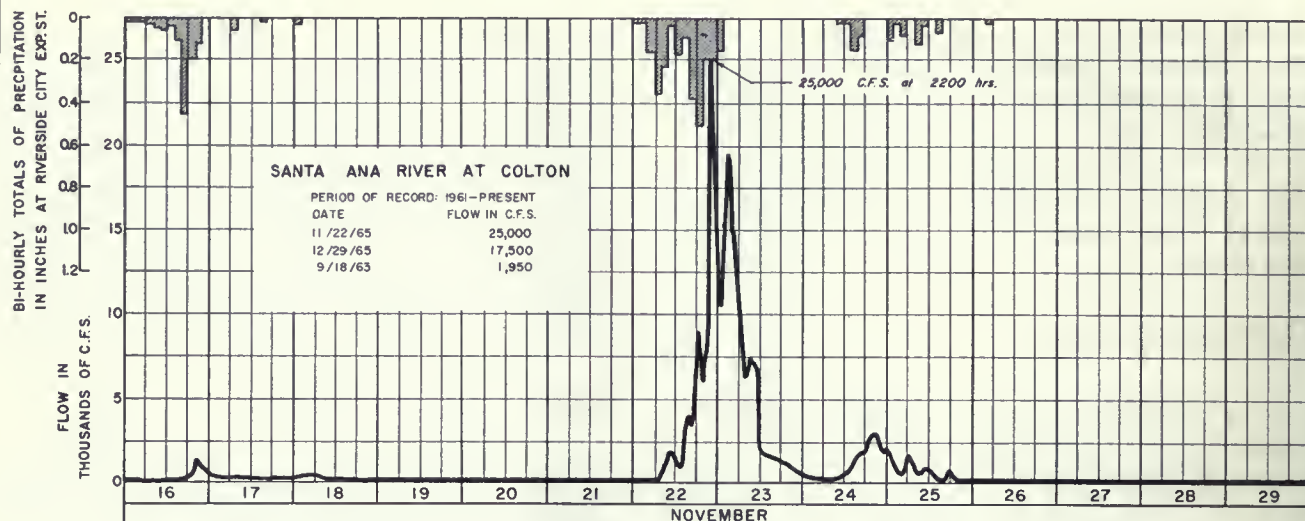
At Sepulveda Dam, Los Angeles River discharges peaked at 11,200 cfs on November 17, and at 13,000 cfs on December 29 (Plate 6). The December peak exceeds the previous record (March 1938) by 800 cfs. At the Arroyo Seco near Pasadena, gage flow peaked at 3,160 cfs on November 22, and at 3,050 cfs on December 29. These flows were the highest and third highest, respectively, since March, 1938.

San Gabriel River Basin

The San Gabriel River drains approximately 580 square miles between the Los Angeles River on the north and the Santa Ana River on the south. About 375 square miles of this basin are on the westerly slopes of the San Gabriel Mountains.

The U. S. Weather Bureau reports that November rainfall totaled more than 30 inches at several stations in these mountains, the maximum being 37.92 inches at Opids Camp. More than 20 inches fell at other mountain stations. Although above normal rainfall occurred again in December, the total was less than in November. At San Gabriel Dam, 23.75 inches fell in November but only 10.53 inches in December; San Gabriel Canyon Powerhouse station recorded 15.03 inches in November but only 6.07 inches in December. In the East Fork San Gabriel River near Camp Bonita (Plate 6), the peak December flow (9,760 cfs on December 29) was greater than the peak November flow (8,200 cfs on November 22) because of the intense rainfall during the December storm.

Runoff in the basin is regulated by six major reservoirs (combined capacity 159,200 acre-feet) and several small flood control reservoirs (combined capacity 19,100 acre-feet). These reservoirs substantially reduced the magnitude of flows in many streams. The major reservoirs are the San Gabriel, Morris, and Santa Fe (combined capacity 113,800 acre-feet) on the San Gabriel; Whittier Narrows (capacity 35,000 acre-feet) on the San Gabriel Rio Hondo River;



HYDROGRAPHS OF SANTA ANA RIVER, SANTIAGO AND SAN MATEO CREEKS

and Cogswell (capacity 10,400 acre-feet) on the West Fork San Gabriel River.

Santa Ana River Basin

The largest of the South Coastal drainage basins is the Santa Ana River Basin (approximately 2,400 square miles). Within it, the Santa Ana River flows southwest from the southern slopes of the San Bernardino and San Gabriel Mountains to the Pacific Ocean.

A few stations reported very light rain before midnight, November 13. Rain continued intermittently for the next few days. At most stations, it fell heaviest on November 17 and stopped on November 18, although at a few stations traces fell as late as November 19. This first November storm conditioned the ground for major runoff from the storm which followed. Rain fell again over most of the area between November 21 and 25. This rainfall was intense, particularly on November 22 and 23; the resulting floods damaged many areas

The Santa Ana River at Colton (Plate 7) peaked at 25,000 cfs on November 22. Prado Reservoir, with a peak storage of 15,400 acre-feet on November 23, substantially reduced downstream discharge.

Peak flows on Santiago Creek at Modjeska (Plate 7) were 1,500 cfs on November 22 and 1,120 cfs on December 29. Below Santiago Reservoir, the peak flow was 255 cfs on November 22 and 590 cfs on December 29.

The peak flow of City Creek near Highland was 1,310 cfs on November 27 and 1,120 cfs on December 29.

San Juan Creek and Arroyo San Onofre Groups

The streams in this group drain an area of approximately 515 square miles on the western Pacific slopes.

San Onofre Creek near San Onofre reported a peak of 1,310 cfs on November 22, about

50 percent of the 15-year record high. The December storm generated a much lower peak of 790 cfs on December 29.

San Mateo Creek, dry for several months each year, has no regulation above the San Clemente station. On November 22, the unusually high peak November flow was 5,070 cfs; on December 29, the peak December flow was 3,460 cfs. The previous high peak was 4,800 cfs in April 1958. San Mateo Creek at San Onofre peaked at 5,500 cfs, due partially to a ruptured detention dam (Plate 7).

San Juan Creek near San Juan Capistrano is intermittently dry in most years. No regulation exists on the stream above this station. On November 22, the peak flow was 4,080 cfs the second highest recorded since March, 1938; on December 29, it was 1,950 cfs.

San Luis Rey River and San Marcos Creek Group

The streams of this group drain approximately 780 square miles, 670 of them in the Peninsula Range.

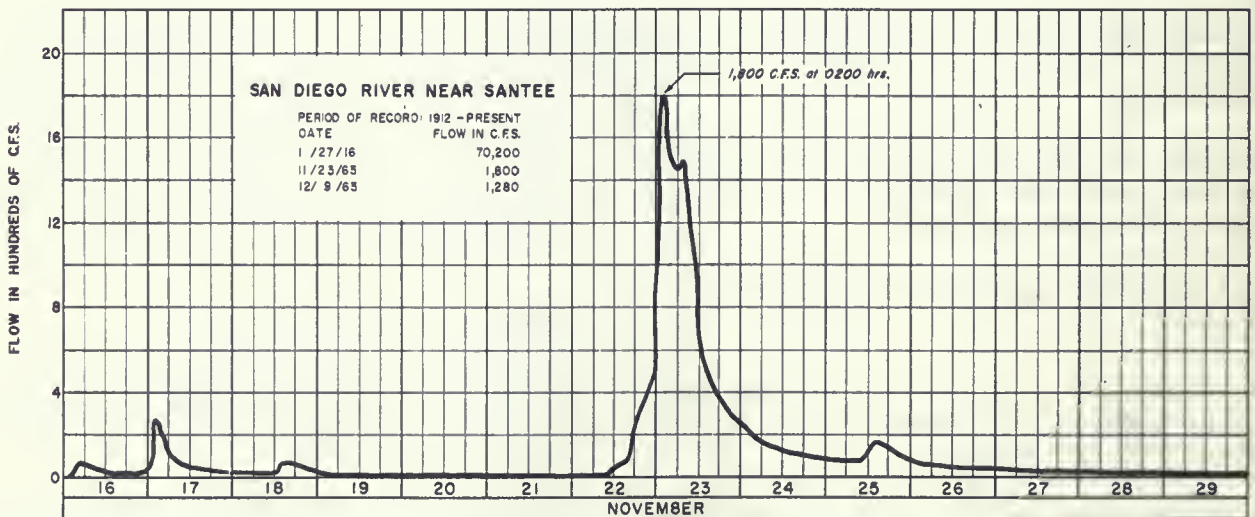
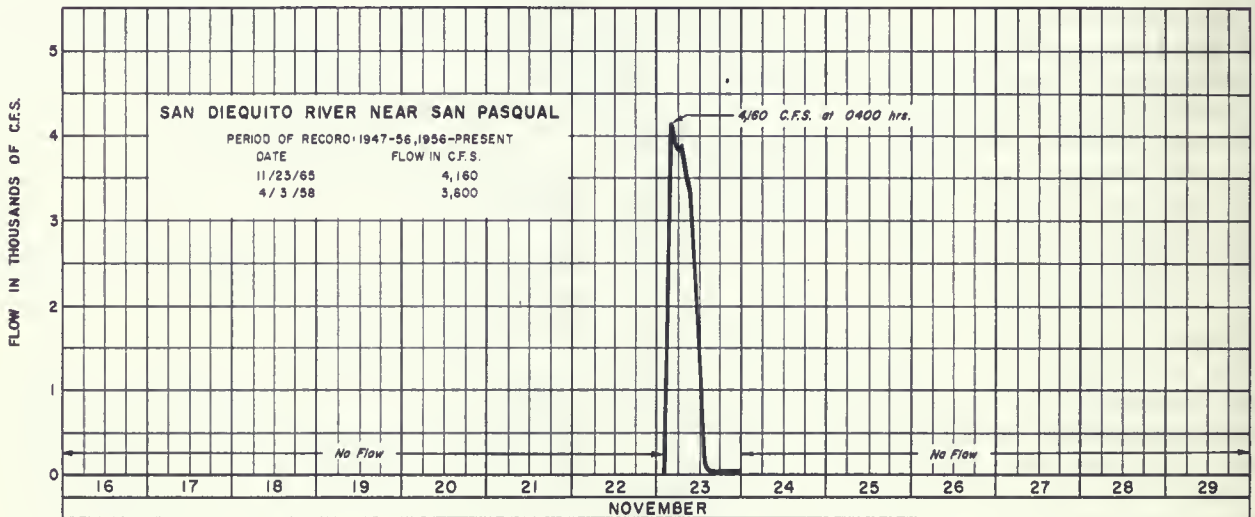
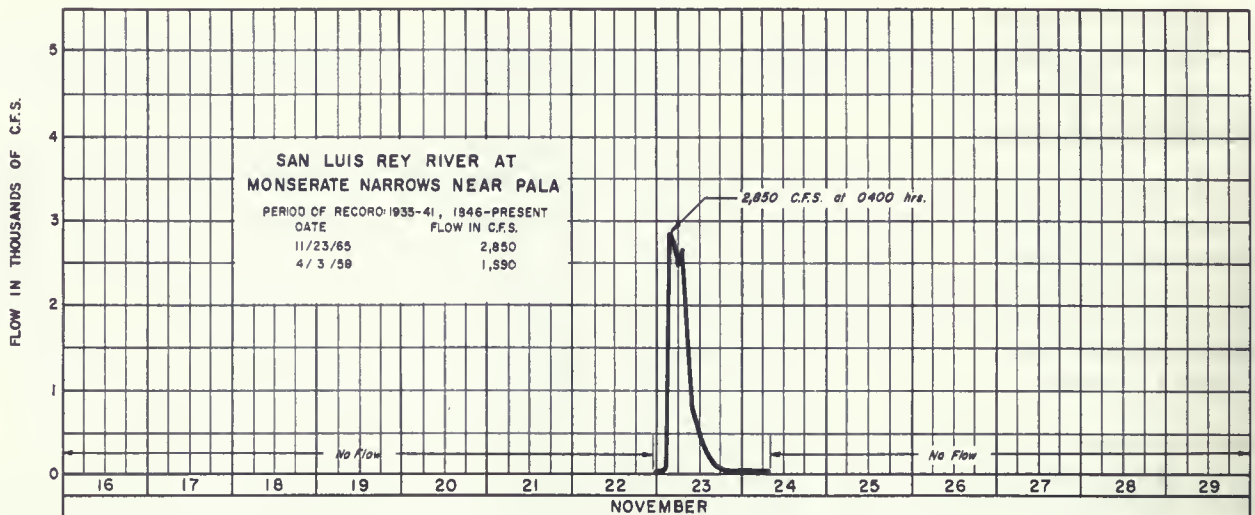
A peak of 1,650 cfs flowed through the West Fork San Luis Rey River near Werner Springs on November 22; a peak of 355 cfs, on December 29. In March 1938, peak flow at this point was 2,060 cfs.

Henshaw Lake (maximum storage capacity, 203,580 acre-feet) regulates the San Luis Rey River. Downstream, the peak flow near Bonsall was 2,560 cfs on November 23, but only 86 cfs on December 30. Neither flow approached that of March 1938: 18,100 cfs. Plate 8 presents a hydrograph of flow at the gage at Monserate Narrows near Pala.

San Dieguito River Basin

Foothills and mountains comprise about 90 percent of the 330 square-mile San Dieguito River basin.

Although the Santa Ysabel Creek near San Pasqual dries up at times most years, it



HYDROGRAPHS OF SAN LUIS REY, SAN DIEGUITO AND SAN DIEGO RIVERS

was anything but dry on November 23 when flow peaked at 5,260 cfs; the maximum flow observed at this station was 8,000 cfs in March 1906. Sutherland Reservoir has regulated the flow in the creek since July 1954.

On Guejito Creek near San Pasquel, there is no regulation of flows above the station. A peak flow of 2,550 cfs was recorded on November 23. The previous high flow at this station since the beginning of records in December 1946 was 1,660 cfs occurring in April 1958.

San Diego River Basin

The San Diego River Basin drains about 435 square miles along the Pacific slope of the Laguna Mountains.

The flow at the San Diego River near Santee gage drains more than three-fourths of the area. Cuyamaca, El Capitan, and San Vicente Reservoirs regulate the river and principal tributaries above Santee.

Near Santee, flow peaked at 1,800 cfs on November 23 and at 1,280 cfs on December 9 (Plate 8). Both flows were well below a record peak of 70,200 cfs set in January 1916.

Santa Margarita River Basin

Streams of the Santa Margarita River Basin drain about 740 square miles.

At Temecula, 3.12 inches of rain fell between November 13 and 19. During the November 21-29 storm, 5.75 inches fell -- 4.44 inches in 24 hours. The station reported 2.02 inches of rainfall between December 28 and 31. In all, 13.92 inches of rain fell during November and December.

The peak November flow of Murrieta Creek at Temecula was 3,700 cfs on November 23,

about 20 percent of the 1943 record. During December, a peak flow of 5,020 cfs occurred on the 29th (Plate 9).

In Santa Margarita River near Temecula, flow peaked at 4,200 cfs on November 23, and at 5,520 cfs on December 29; both peaks were well below the record peak of 25,000 cfs in February 1927.

Sweetwater, Otay, and Tia Juana River Basins

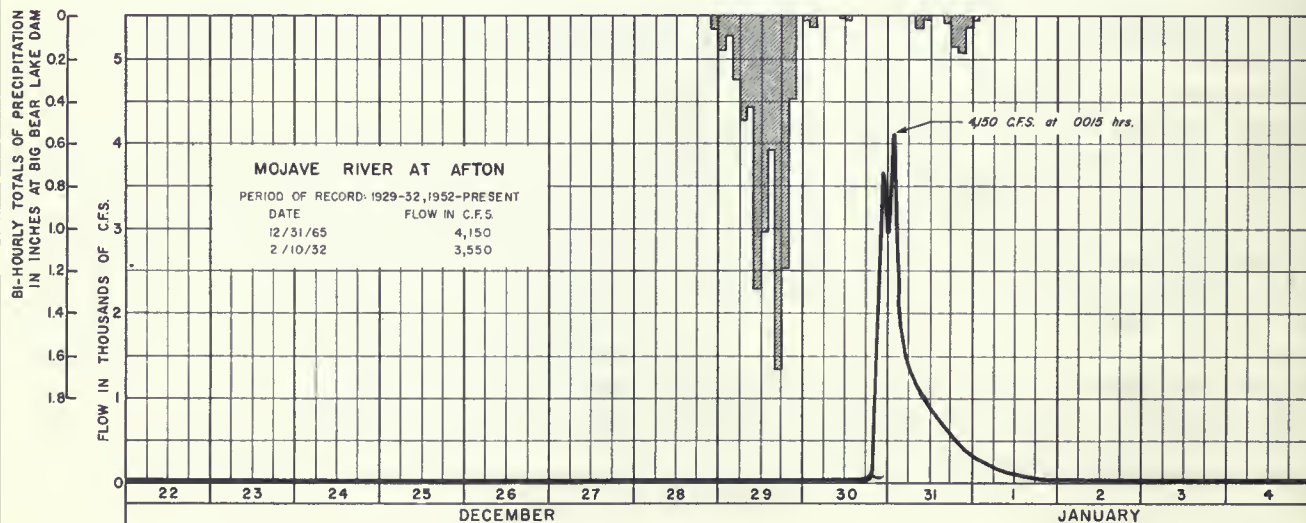
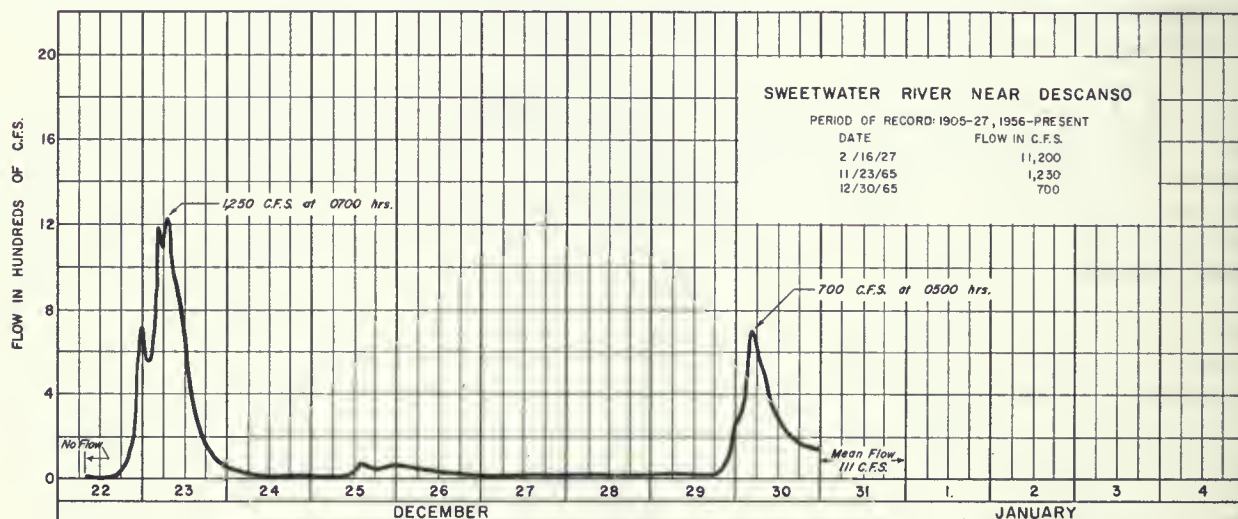
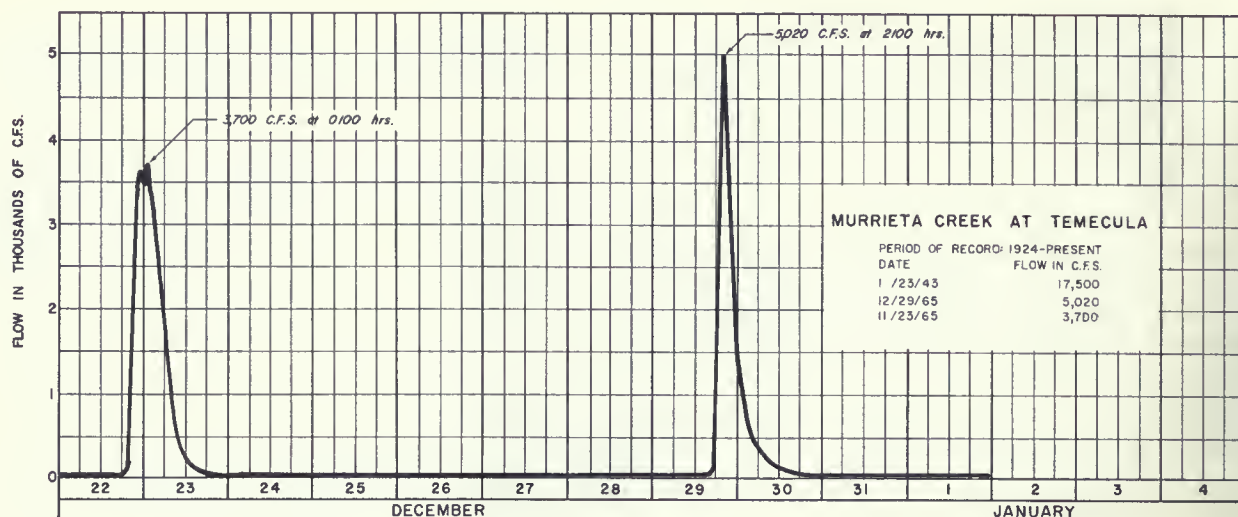
From the San Diego River Basin, these three basins extend southward. In California, they drain an area of approximately 728 square miles. In Mexico, the Tia Juana River basin drains an additional 1,200 square miles.

Rainfall was well above normal throughout the area during November and December 1965. At Barrett Dam 8.79 inches fell in November -- 7.63 inches more than normal; in December 4.87 inches fell -- 1.84 inches more than normal.

Sweetwater River near Descanso (Plate 9) peaked at 1,230 cfs on November 23, and at 700 cfs on December 30. Although the November peak was well below the 11,200 cfs recorded in February, 1927, the river did overflow, causing flood damage.

In the Otay River Basin near the Jamul stream gage, Jamul Creek, often dry, peaked at 680 cfs on November 23 and 51 cfs on December 30.

The Tia Juana River near Nestor peaked at 267 cfs on November 23 and at 145 cfs on December 16. During the entire previous water year (October 1, 1964, to September 30, 1965), the flow at this point never exceeded 1 cfs. Morena and Barrett Reservoirs in the United States and Rodrigues Reservoir in Mexico regulate flows in the river.



HYDROGRAPHS OF MURRIETA CREEK, SWEETWATER AND MOJAVE RIVERS

Table 4: Reservoir Operations in South Coastal Hydrographic Area: November 13, 1965 to January 4, 1966

| Stream | Reservoir | Capacity Acre-Feet | Storage Nov. 13, 1965 Acre-Feet | Peak Storage in Acre-Feet and Date | Peak Inflow in CFS and Date | Peak Discharge in CFS and Date |
|--------------------------|------------------|-----------------------|---------------------------------------|---------------------------------------|--------------------------------|-----------------------------------|
| Santa Ynez River | Lake Cachuma | 204,900 | 117,870 | 172,400* 1/ 4/66 | 8,170** 12/30/65 | 29 11/15/65 |
| Santa Ynez River | Gibraltar | 15,000 | 10,480 | 15,300 12/29/65 | 8,900 12/29/65 | 6,700 12/29/65 |
| Piru Creek | Lake Piru | 100,000 | 5,880 | 49,800* 1/ 4/66 | 9,700 12/29/65 | 350 12/25/65 |
| Coyote Creek | Canitan | 250,000 | 39,740 | 72,580* 1/ 4/66 | 3,490 12/30/65 | 40 11/ 4/65 |
| San Gabriel River | San Gabriel | 44,610 | 1,050 | 21,740 1/ 1/66 | 27,180 12/29/65 | 9,070 11/23/65 |
| W. Fork San Gabriel Riv. | Cogswell | 10,450 | 200 | 7,840 1/ 4/66 | 12,200 12/29/65 | 2,570 11/22/65 |
| San Gabriel River | Santa Fe | 33,000 | 0 | 7,280 11/23/65 | 10,840 11/23/65 | 11,100 11/23/65 |
| San Gabriel Rio Hondo | Whittier Narrows | 35,000 | 4 | 1,820 12/29/65 | 18,840 12/29/65 | 14,350 12/29/65 |
| Big Tujunga | Hanson | 35,800 | 600 | 8,720 12/30/65 | 5,200 11/22/65 | 3,240 11/23/65 |
| Los Angeles River | Sepulveda | 17,400 | 0 | 2,120 12/29/65 | 17,040 12/29/65 | 11,150 11/29/65 |
| Bear Creek | Big Bear Lake | 72,400 | 19,455 | 32,450* 1/ 4/66 | 500** 12/2-7/65 | 0 |
| Santiago Creek | Santiago Creek | 25,000 | 4,050 | 11,800* 1/ 4/66 | N.A. | 0 |
| San Jacinto River | Railroad Canyon | 15,200 | 1,453 | 4,690* 1/ 4/66 | 371 (Missing) | 2 (Missing) |
| Trib. Cajalco Creek | Lake Mathews | 182,000 | 101,650 | 171,230 12/31/65 | 1,546 12/16/65 | 1,070 11/13/65 |
| Santa Ana River | Prado | 223,000 | 5 | 15,437 11/23/65 | 30,600 11/23/65 | 1,040 11/23/65 |
| Cottonwood Creek | Morena | 50,200 | 199 | 501* 1/ 4/66 | 42 11/22/65 | 0 |
| Cottonwood Creek | Barrett | 44,860 | 1,330 | 2,670* 1/ 4/66 | 185 11/23/65 | 0 |
| San Diego River | El Capitan | 116,450 | 13,830 | 17,930 1/ 2/66 | 480 11/23/65 | 81 11/23/65 |
| Santa Ysabel Creek | Sutherland | 29,000 | 3,240 | 5,310* 1/ 4/66 | 300 11/22/65 | 0 |
| San Dieguito River | Lake Hodges | 33,550 | 1,090 | 4,660 12/31/65 | 930 11/22/65 | 5 11/22/65 |
| Sweetwater River | Sweetwater Lake | 27,690 | 2,350 | 3,450 1/ 3/66 | 100 11/23/65 | 0 |
| Sweetwater River | Lake Loveland | 27,700 | 1,940 | 3,120* 1/ 4/66 | 150 11/23/65 | 0 |
| San Luis Rey River | Lake Henshaw | 203,580 | 5,250 | 11,510* 1/ 4/66 | 390 12/30/65 | All discharges to pipelines |

LEGEND
 N.A. - Not Available
 * - Reservoir storage increasing on January 4, 1966. Peak storage occurred at later date.
 ** - Mean daily values

Reservoir Operations in South Coastal Hydrographic Area

Reservoirs substantially reduced the magnitude of flow in many Southern California streams. Such reservoirs were not only those constructed for flood control, but also those constructed primarily to conserve water. Their effectiveness was evident both from the fact that reservoir inflow exceeded reservoir discharge and from the amount of water detained.

Table 4 shows operations of certain of these reservoirs during the flood periods.



Lahontan Hydrographic Area (Southern Portion)

The principal streams in the area, the Mojave River and tributaries, drain the northern slopes of the San Bernardino and San Gabriel Mountains. There are no flood control or watershed protection projects in the basin.

In the desert, rainfall is usually light, although local thunderstorms have contributed the equivalent of mean seasonal rainfall in less than two hours. In the San Bernardino and San Gabriel Mountains, storms are more frequent and high intensities often accompany heavy rains.

In November, precipitation in the area, including the desert, was from 4 to 8 times more than normal; and in December, from 2 to 3 times more than normal.

Runoff from the late November and December storms was about the same, although peak flows in the Mojave River and trib-

utaries were usually higher in December.

On December 29, the peak flow in West Fork Mojave River near Hesperia was 21,200 cfs, more than $2\frac{1}{2}$ times greater than that of November 22.

Deep Creek near Hesperia, peaked at 21,700 cfs on November 22, the highest flow since that of 46,600 cfs in March 1938. On December 29, it peaked at 20,800 cfs.

The peak flow in the Mojave River at Af-ton, 4,150 cfs on December 31, (Plate 9) was the peak of record, although it undoubtedly was exceeded in March 1938.

Plate 10, an isohyetal map of the second November storm, locates both precipitation and stream gaging stations in the area.

Colorado Desert Hydrographic Area

This area includes the portion of the Colorado River Basin that is within California, the Salton Sea Basin and local sinks east of the South Coastal Area.

Precipitation in the area is usually light, the seasonal average being 7.9 inches. Most runoff is from the San Bernardino Mountains and drains through the Whitewater River into Salton Sea.

Although near-record rainfall during the first November storm produced only minor runoff, the storm conditioned the ground for the intense runoff of the second November storm. Runoff filled normally

dry washes to overflowing with turbulent, debris-laden water.

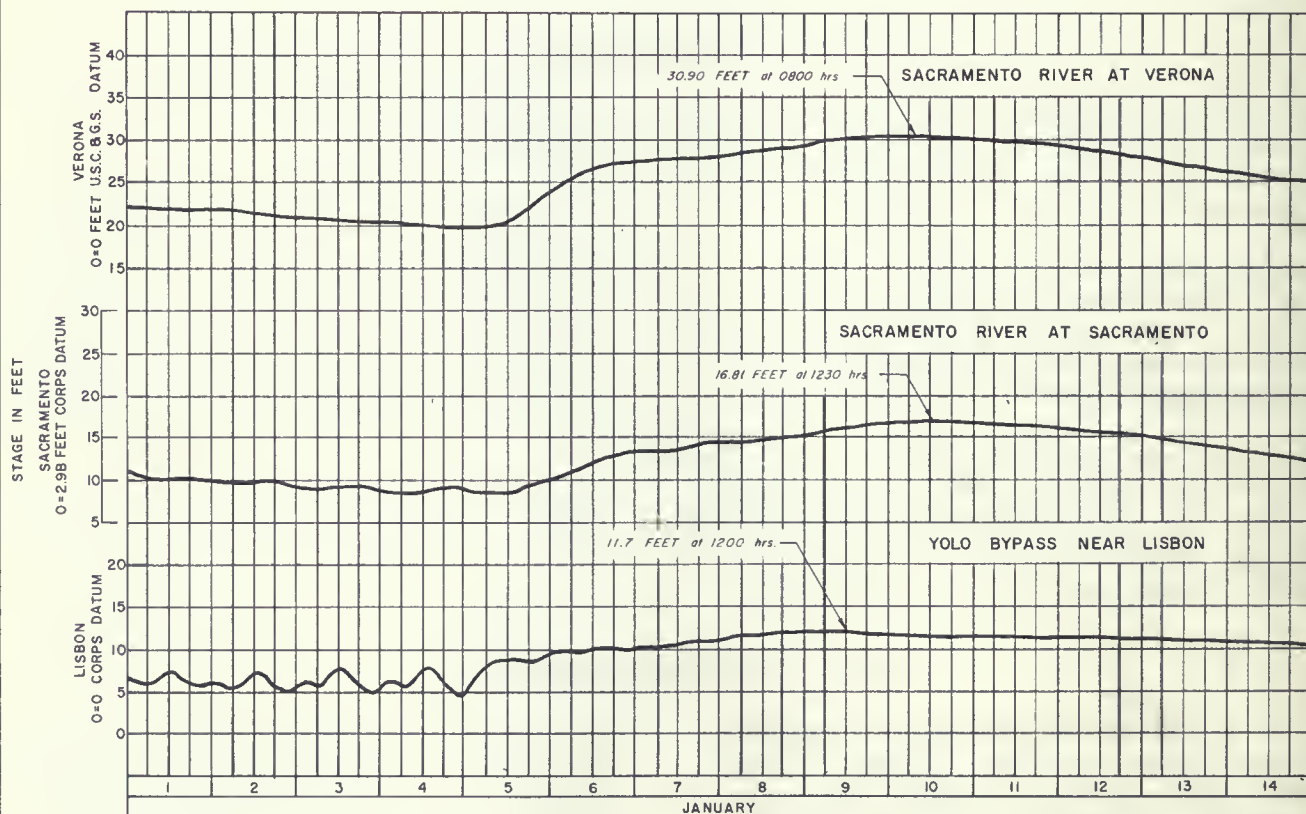
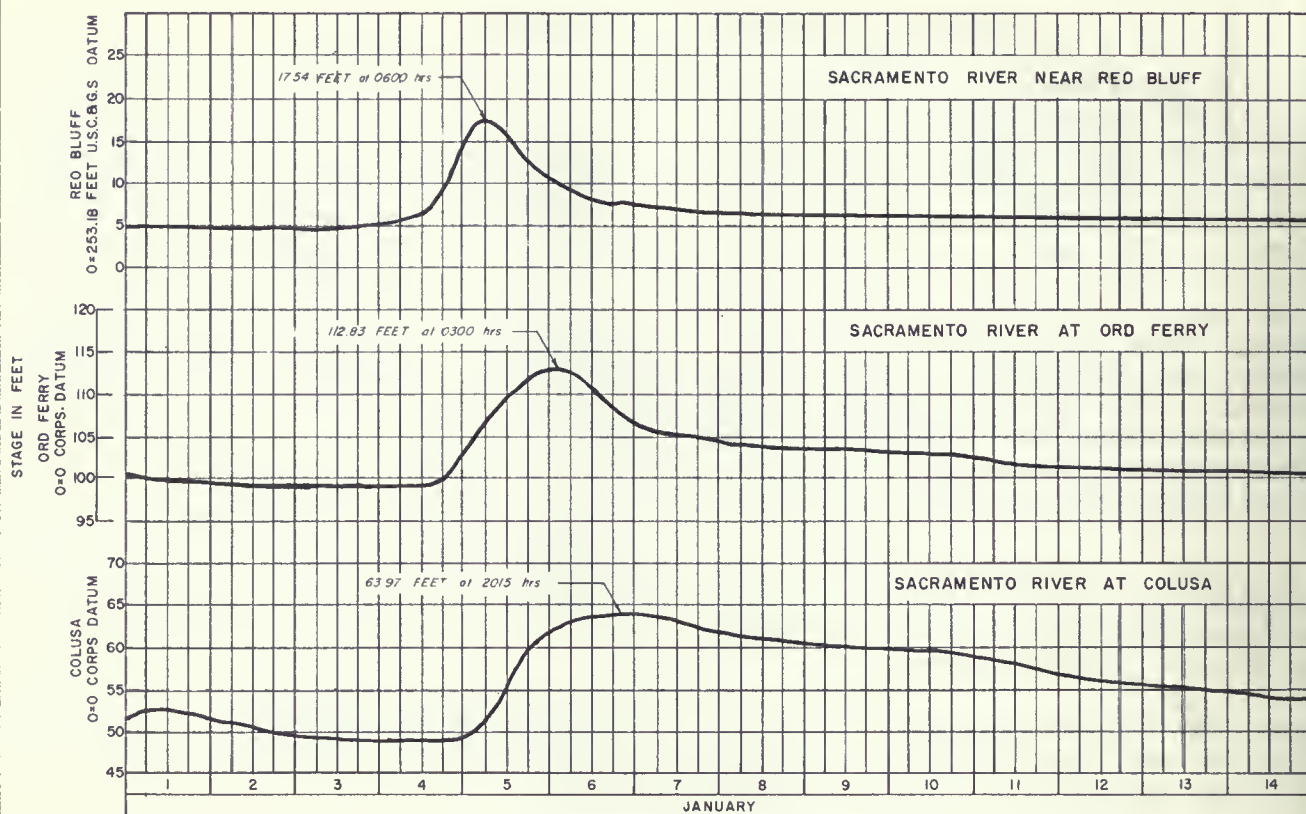
On November 22, a peak flow of 2,900 cfs was recorded in Tahquitz Creek near Palm Springs; and one of 1,520 cfs, in Palm Canyon Creek near Palm Springs. These flows were the highest and second highest, respectively, of record. A record peak flow of 4,200 cfs in Snow Creek near White Water occurred on November 22.

Plate 10 locates precipitation and stream gaging stations in the area and depicts the second November storm.

Central Valley Hydrographic Area

It is difficult to generalize regarding precipitation in the Central Valley (Plate 1) in terms of light, moderate, or heavy. Storms sweeping in from the

ocean over the Coastal Ranges and across the valley are influenced by changes in elevation. As elevation increases on the west slope of the Coastal Ranges,



GAGE HEIGHTS OF SACRAMENTO RIVER AND YOLO BYPASS

precipitation increases. As elevation decreases down the east slope, precipitation diminishes. In general, little variation occurs as storms pass eastward across the Central Valley floor; but as they ascend the west slope of the Sierra Nevada Mountains, precipitation again increases. It reaches its maximum near the divide. Winter snows of the Sierra Nevada are heavy above 3,000 feet in the north and 4,000 feet in the south. Their depths are exceeded in few parts of the United States.

Although January precipitation was well below normal on the valley floor, it was well above normal in the northern mountains. Mount Shasta City reported 51 inches of snow on the ground in January, the second greatest depth of record and the greatest since 1937. Between December 24 and January 4, snowfall totaled 105 inches. Heavy snows on January 2, 3, and 4 closed northern mountain highways and schools, downed power and telephone lines, and crushed a number of buildings.

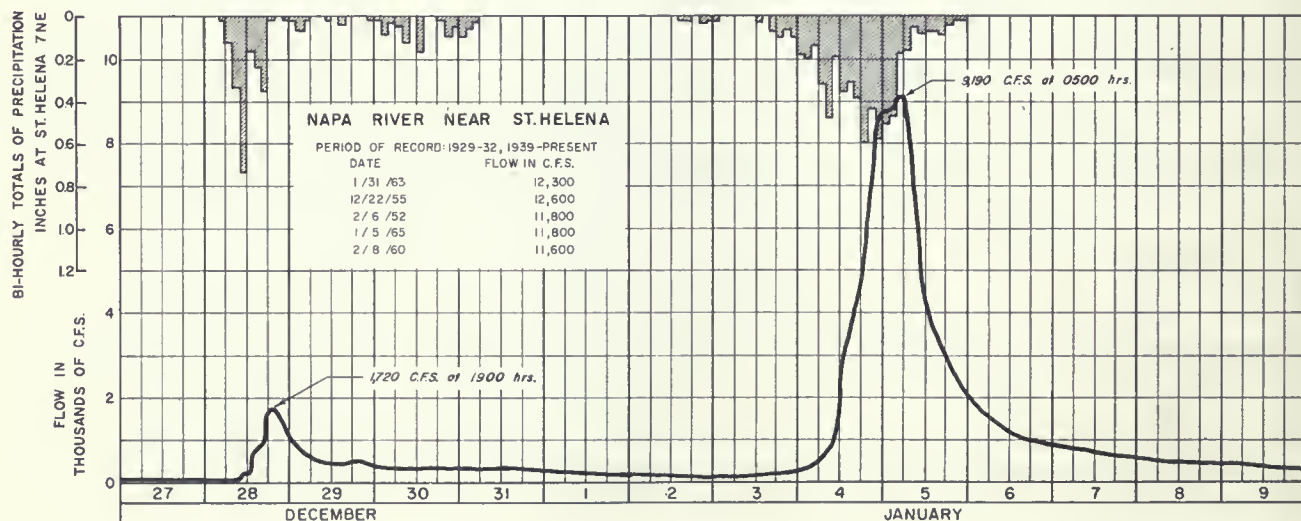
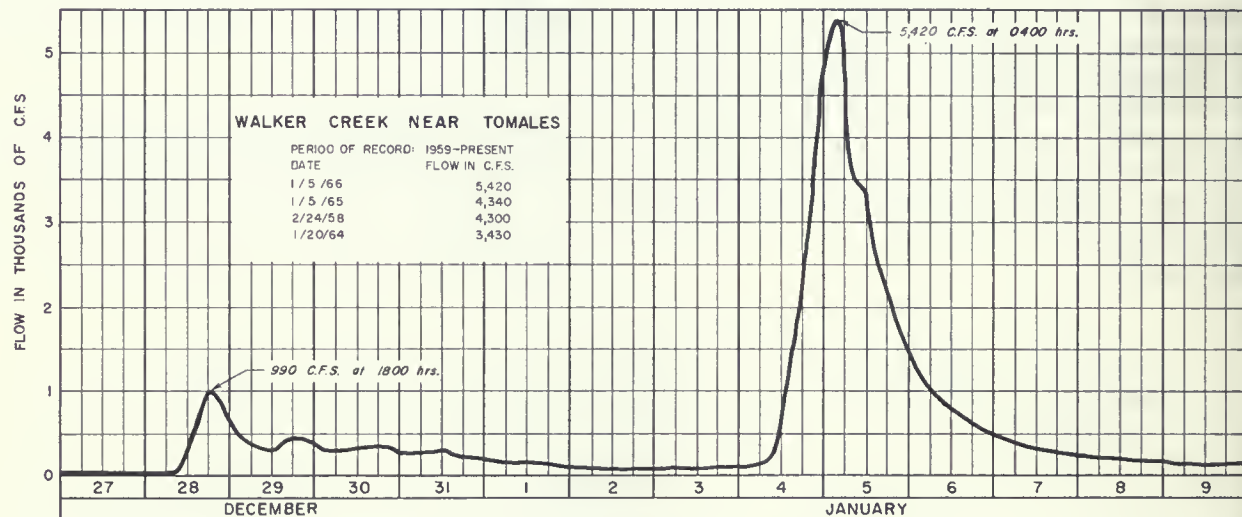
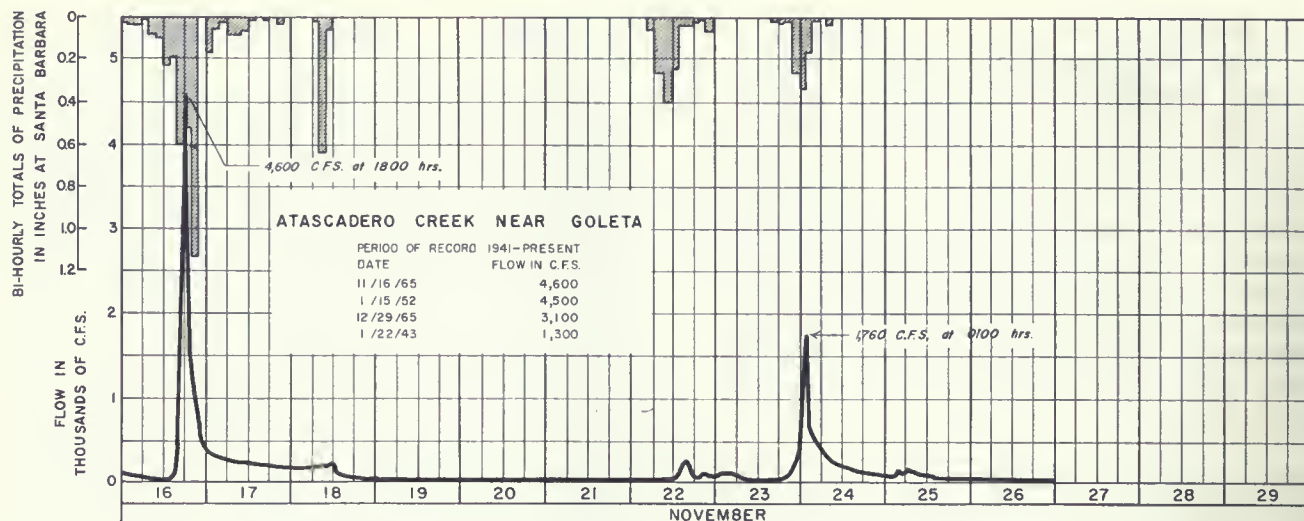
Sacramento River and Tributary Basins

High flows into Shasta Lake between January 3 and 10 increased storage by about 215,000 acre-feet. Just below Shasta Lake, the peak discharge in the Sacramento River at Keswick during this 7-day period was 15,000 cfs. Downstream from Keswick, flows in the tributary streams were moderate to high. To the east, Cow Creek peaked at 31,400 cfs; Battle Creek, at 1,200 cfs; Antelope Creek, at 2,540 cfs; and Mill Creek, at 2,760 cfs. To the west, Cottonwood Creek peaked at 14,700 cfs; Thomes Creek, at 4,180 cfs; and Stony Creek at 12,800 cfs. Downstream at Ord Ferry, the Sacramento River peaked at 83,200 cfs on January 6; the record peak of 370,000 cfs occurred in February 1940.

In the Feather, Yuba, and American River Basins, flows were far below record peaks. The Middle Fork Feather River near Merri-mac had a flow of only 4,760 cfs; the record was 86,200 cfs in December 1964. The Feather River at Oroville had a flow

Table 5: Sacramento River Flood Control Project Weir Overflow Data

| Weir | Flood Stage in Feet | Weir Overflow Dates | | Crest | |
|--------------|------------------------|------------------------|---------------------|-------|---------------------|
| | | From- | To- | Stage | Date |
| Moulton Weir | 76.8 | 0700 hr. Jan. 6 | 0530 hr. Jan. 7 | 77.8 | 1800 hr. Jan. 6 |
| Colusa Weir | 61.8 | 1700 hr. Jan. 5 | 0400 hr. Jan. 10 | 67.0 | 2000 hr. Jan. 6 |
| Tisdale Weir | 45.5 | 2000 hr. Jan. 5 | 0900 hr. Jan. 13 | 48.3 | 0100 hr. Jan. 7 |
| Fremont Weir | 33.5 | -- | -- | 33.5 | 0200 hr. Jan. 10 |



HYDROGRAPHS OF ATASCADERO AND WALKER CREEKS AND NAPA RIVER

of only 15,300 cfs; the record was 230,000 cfs in 1964. The Yuba River at Englebright Dam peaked at 6,680 cfs; the record was 171,700 cfs in 1964. The American River at Fair Oaks peaked at 4,100 cfs; the record was 170,000 cfs in 1950.

Within the area of the Sacramento River Flood Control Project, all flows were well below maximum project design quantities. At Sacramento, the Sacramento River peaked at 53,000 cfs on January 10; project design flow here is 110,000 cfs. Moulton, Colusa and Tisdale Weirs overflowed (Table 5). Plate 11 shows stages of the Sacramento River and Yolo Bypass at various points.

San Joaquin River and Tributary Basins

Rainfall from the two November storms

was well above normal at most mountain stations throughout the basins. Tiger Creek Powerhouse reported a November total of 10.53 inches -- 5.92 inches above normal. Calaveras Big Trees recorded 15.34 inches -- 10.44 inches above normal. Farther south in the Sierra Nevada Mountains, Three Rivers Edison Powerhouse No. 2 reported 4.23 inches -- 2.54 inches above normal. December rainfall totals, much less than those of November, were below normal at many stations.

Except for the Cosumnes River, the principal tributaries of the San Joaquin River are controlled by reservoirs; these effectively stored runoff from the storms of November and December. All streamflows were well below flood stages and record peak flows.

San Francisco Bay Hydrographic Area

Streamflow in the San Francisco Bay Hydrographic Area (Plate 1) ranged from moderate to high. Sharp rises in the streams of the North Bay area resulted from intense rainfall during January 4 and 5. At St. Helena, 6.85 inches of rain fell; at Calistoga, 5.40 inches fell; and at Napa, 7.31 inches fell.

On January 5, the Napa River near St. Helena (Plate 12) peaked at 9,190 cfs; the record peak, in 1955 was 12,600 cfs. 5.41 inches of rain fell in the Sonoma Creek Basin; 6.67 inches fell at Santa Rosa. Sonoma Creek at Boyes Hot Springs

peaked at 6,400 cfs; the record was 8,900 cfs in 1955. Walker Creek, one of the smaller creeks near Tomales, registered a new peak flow of record; 5,420 cfs (Plate 12).

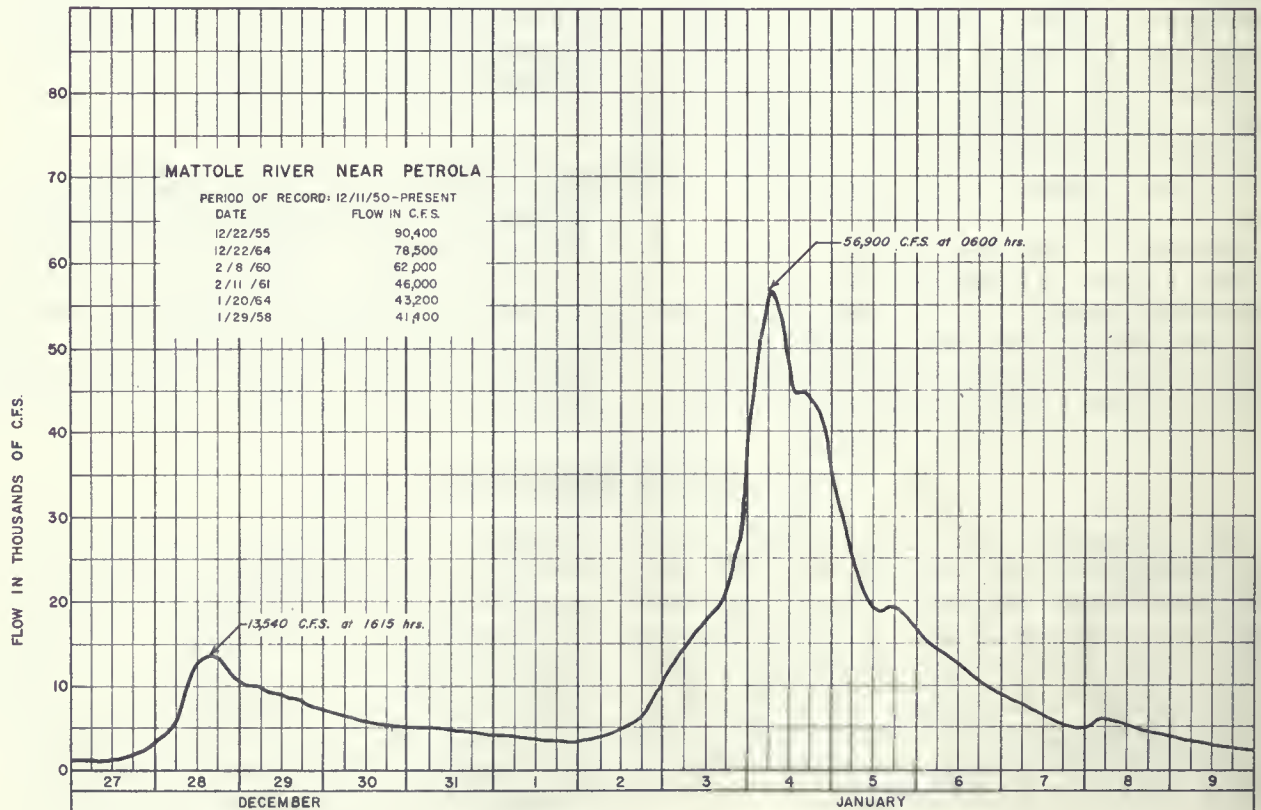
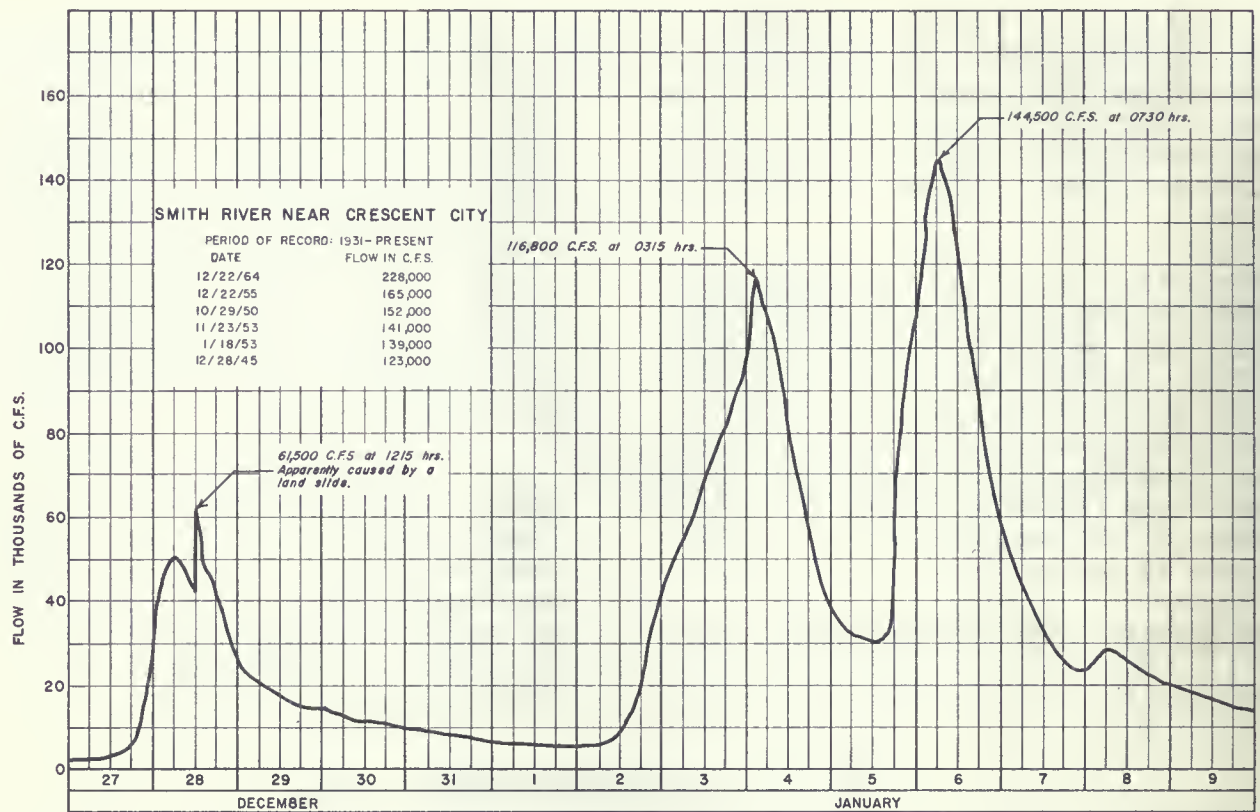
Flows in East Bay, South Bay, and Peninsula area streams generally were low: Walnut Creek at Walnut Creek peaked at 1,410 cfs on December 28, 1965; high was 12,200 cfs in 1958. Alameda Creek near Niles peaked at only 750 cfs on December 29; the high was 29,000 cfs in December, 1955.

Central Coastal Hydrographic Area

In all streams in the northern and central sections of the Central Coastal Hydrographic Area (Plate 1) runoff was low. San Lorenzo River at Big Trees registered a peak flow of 1,080 cfs on December 29; the record, set in 1955, is 30,400 cfs. Salinas River near Pozo registered a peak of 1,320 cfs on November 24; the record, set in 1943, is 7,210 cfs.

Only to the extreme south of the hydro-

graphic area was runoff high. Near Goleta, runoff in Atascadero Creek set a new record: 4,600 cfs (Plate 12). The old record, set in January 1952, was lower by 100 cfs. On November 16, San Jose Creek near Goleta peaked at 1,700 cfs, only 260 cfs less than a record set in April 1941. On November 24, Carpinteria Creek near Carpinteria peaked at 2,300 cfs, only 140 cfs less than the 1952 record.



HYDROGRAPHS OF SMITH AND MATTOLE RIVERS

Lahontan Hydrographic Area (Northern Portion)

This area (Plate 1) contains eight contiguous drainage basins; Alkali Lakes, Eagle Lake, Honey Lake, Truckee River, Carson River, Walker River, Mono Lake, and Owens River Basins. The headwaters of these basins rise along the eastern slopes of the Warner and Sierra Nevada Mountains. The basins have no outlets

to the sea; their drainage terminates in lakes and sinks.

Rainfall in October and December was below normal; in November, although above normal, it was of low intensity. Runoff was low or moderate, well below record peaks.

Table 6: Reservoir Operations in North Coastal Hydrographic Area: January 1-17, 1966

| Stream | Reservoir | Capacity Acre-Feet | Storage Jan. 1, 1966 Acre-Feet | Peak Storage in Acre-Feet and Date | Peak Inflow in CFS and Date | Peak Discharge in CFS and Date |
|------------------------|------------------|-----------------------|--------------------------------------|---------------------------------------|--------------------------------|-----------------------------------|
| Shasta River | Dwinell | 72,000 | 25,180 | 28,650* 1/17/66 | N.A. | 0 |
| Trinity River | Clair Engle Lake | 2,500,000 | 1,970,300 | 2,005,500* 1/17/66 | 1,630** | 3,180 1/10/66 |
| Mad River | Ruth | 51,800 | 40,880 | 56,330 1/ 5/66 | 7,084** 1/ 5/66 | 2,886** 1/ 5/66 |
| E. Fork Russian River | Lake Mendocino | 122,500 | 67,000 | 90,400 1/ 6/66 | 11,160 1/ 4/66 | 3,440 1/ 6/66 |
| Clear Creek | Whiskeytown | 250,000 | 206,450 | 213,270 1/ 6/66 | 2,990** 1/ 4/66 | 3,030** 1/ 7/66 |
| Sacramento River | Shasta | 4,500,000 | 3,186,900 | 3,394,100 1/ 9/66 | 44,530 1/ 4/66 | 14,190** 1/17/66 |
| Little Stony Creek | East Park | 51,000 | 22,400 | 42,480* 1/17/66 | 3,740** 1/ 5/66 | 0 |
| Stony Creek | Stony Gorge | 50,000 | 21,100 | 43,730 1/ 7/66 | 6,500** 1/ 5/66 | 1,490** 1/ 8/66 |
| Stony Creek | Black Butte | 160,000 | 61,760 | 86,100 1/ 6/66 | 12,700** 1/ 4/66 | 4,950 1/ 7/66 |
| No. Fork Feather River | Lake Almanor | 1,308,000 | 623,070 | 629,120 1/11/66 | 10,280** 1/ 4/66 | 5,540** 1/24/66 |
| American River | Polsom | 1,000,000 | 559,000 | 592,800 1/12/66 | 6,030** 1/ 5/66 | 2,590** 1/ 9/66 |

LEGEND
 N.A. - Not Available
 * - Reservoir storage increasing on January 4, 1966. Peak storage occurred at later date.
 ** - Mean daily values

Reservoir Operations in North Coastal Hydrographic Area

Reservoirs substantially reduced the magnitude of flow in many Northern California streams. Such reservoirs were not only those constructed for flood control, but also those constructed primarily to conserve water. Their effectiveness was evident both from the fact that reservoir inflow exceeded reservoir discharge and from the amount of water detained.

Table 6 shows operations of certain of these reservoirs during the flood periods.





Stream Gaging Stations

1. Middle Fork Smith River at Gasquet
2. Smith River near Crescent City
3. Shasta River near Yreka
4. Scott River near Fort Jones
5. Klamath River near Seiad Valley
6. South Fork Salmon River near Forks of Salmon
7. North Fork Salmon River near Forks of Salmon
8. Salmon River at Somesbar
9. Klamath River at Somesbar
10. Red Cap Creek near Orleans
11. Bluff Creek near Weitchpec
12. Trinity River above Coffee Creek near Trinity Center
13. Trinity River of Lewiston
14. North Fork Trinity River at Helena
15. Trinity River near Burnt Ranch
16. New River at Denny
17. South Fork Trinity River at Forest Glenn
18. South Fork Trinity River near Hyampom
19. Hayfork Creek near Hayfork
20. Hayfork Creek near Hyampom
21. South Fork Trinity River near Salyer
22. Willow Creek at Willow Creek
23. Trinity River near Hoopa
24. Klamath River near Klamath
25. Redwood Creek at Orick
26. Little River of Crannell
27. Mad River near Forest Glenn
28. North Fork Mad River near Korbelt
29. Mad River near Arcata
30. Jacoby Creek near Freshwater
31. Elk River near Falk
32. Eel River below Scott Dam near Potter Valley
33. Eel River at Van Arsdale Dam, near Potter Valley
34. Outlet Creek near Longvale
35. Eel River above Dos Rios
36. Black Butte River near Covelo
37. Middle Fork Eel River below Black Butte River, near Covelo
38. Eel River below Dos Rios
39. North Fork Eel River near Mina
40. Eel River at Alderpoint
41. South Fork Eel River near Branscomb
42. Tenmile Creek near Laytonville
43. South Fork Eel River near Miranda
44. Bull Creek near Weott
45. Larabee Creek near Holmes
46. Eel River at Scotia
47. South Fork Van Duzen River near Bridgeville
48. Van Duzen River near Bridgeville
49. Mattole River near Petrolia
50. Noyo River near Fort Bragg
51. Rancheria Creek near Boonville
52. Navarro River near Navarro
53. South Fork Gualala River near Annapolis
54. Russian River near Ukiah
55. East Fork Russian River near Calpella
56. Russian River near Hopland
57. Feliz Creek near Hopland
58. Russian River near Cloverdale
59. Big Sulphur Creek near Cloverdale
60. Russian River near Healdsburg
61. Dry Creek near Cloverdale
62. Dry Creek near Geyserville
63. Santa Rosa Creek near Santa Rosa
64. Russian River near Guerneville
65. Austin Creek near Cazadero

North Coastal Hydrographic Area

Following heavy rains on January 3 and 4, rivers rose significantly in the Smith, Eel, Mattole, and Russian River Basins and in the Redwood Creek Basin. Although the rains were as heavy over the Mad, Klamath, and Trinity River Basins, runoff was relatively low.

Plate 14 depicts the January storm and locates precipitation and stream gaging stations in the area.

Mattole Basin

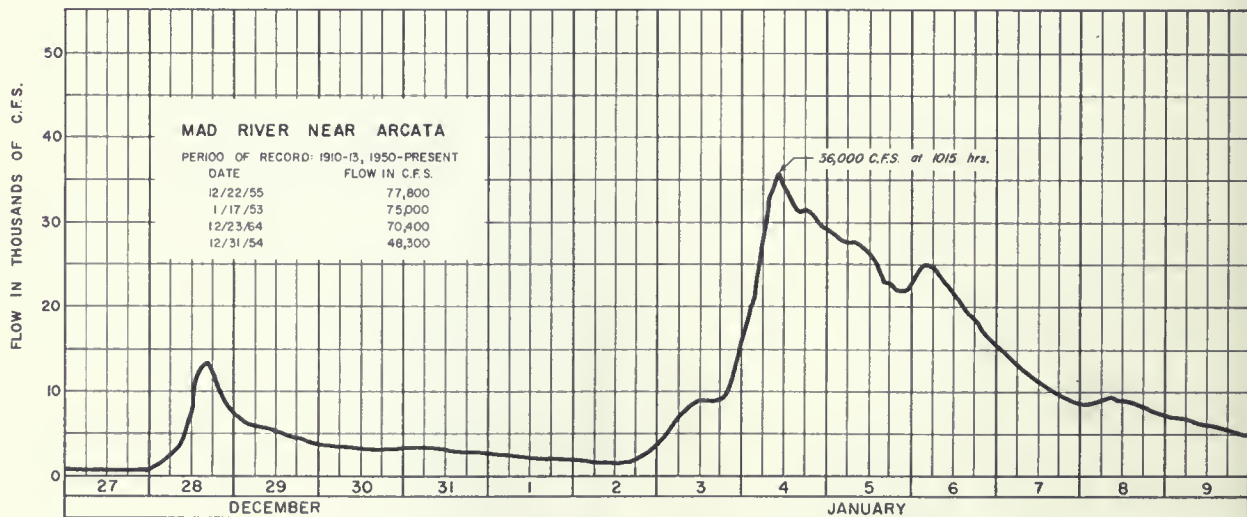
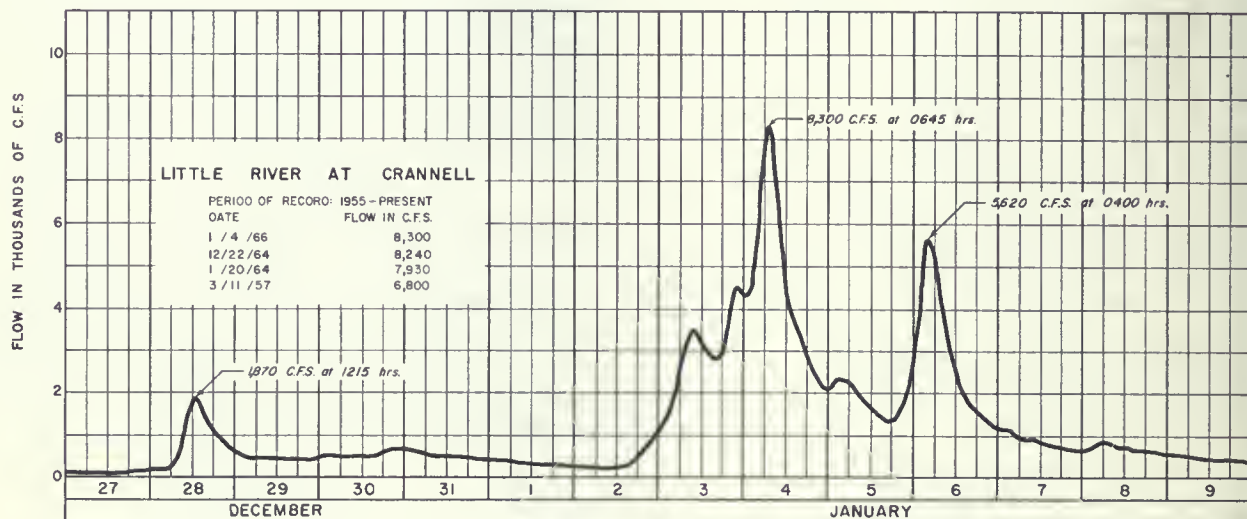
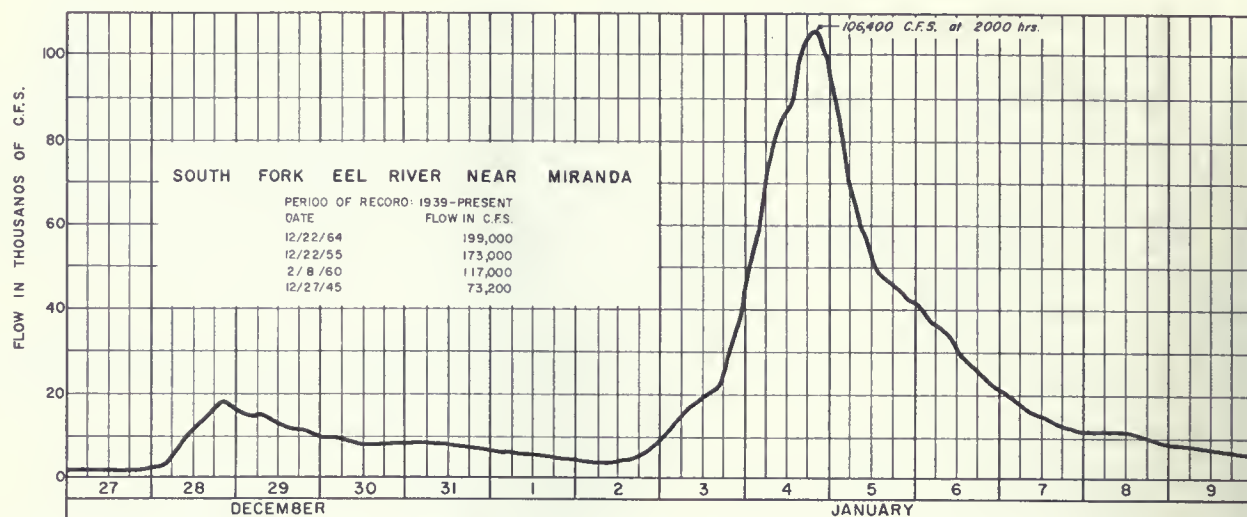
Heavy rainfall (15.7 inches between January 3 and 6) over the 240-square-mile drainage area above the Mattole River generated a peak flow near Petrolia stream gage of about 56,900 cfs at 6 a.m. on January 4 (Plate 13). The record flow here was 90,400 cfs in December, 1955.

Redwood Creek - Mad River Basins

In the Redwood Creek Basin, 6 to 8 inches of rain generated a crest in the creek of 39,600 cfs at Orick -- almost 10,000 cfs less than that of the December 1964 flood. In the Mad River Basin, 9 to 12 inches of rain

Hourly Precipitation Stations

1. Crescent City Maintenance Station
2. Happy Camp Ranger Station
3. Klamath
4. Etna
5. Hoopa
6. Coffee Creek Ranger Station
7. Eureka WB City
8. Kneeland 10 SSE
9. Hyampom
10. Miranda Spengler Ranch
11. Lake Mountain
12. Covelo Eel River Ranger Station
13. Laytonville
14. Fort Bragg
15. Willits Howard Forest Ranger Station
16. Redwood Valley
17. Navarro 1 NW
18. Point Arena
19. The Geysers
20. Venado



HYDROGRAPHS OF SOUTH FORK EEL, LITTLE AND MAD RIVERS

generated a peak flow of about 36,000 cfs in the Mad River. Ruth Reservoir, by storing much of the upstream runoff, lowered downstream flows. Plate 15 presents a hydrograph of flow at the Mad River near Arcata gage.

Klamath-Trinity River Basins

In the Klamath River Basin, moderate rains, falling intermittently between December 24 and January 8, generated low to moderate peak runoff. The heaviest rains, January 3-5, fell west of the Scott River Valley.

In the Scott and Shasta Rivers and along the Klamath River near Seiad Valley, runoff was low. At Orleans, the Klamath River peaked at about 106,000 cfs around noon on January 6. In December 1964, the peak here was 307,000 cfs, the maximum recorded. On January 6, the river peaked near its mouth at 152,000 cfs, well below the previous maximum of 557,000 cfs set in December 1964.

In the Trinity River Basin, the rains also generated low to moderate rises in runoff. At Hoopa gaging station on the Trinity River, flow peaked at a moderate 46,500 cfs on the morning of January 5.

The maximum recorded peak flow here was 231,000 cfs in December 1964.

Eel River and Tributary Basins

In the Eel River Basin, moderate rains began on December 24 and continued intermittently for the next several days. At Scotia, the Eel River peaked at 63,200 cfs on the morning of December 29 (Plate 16).

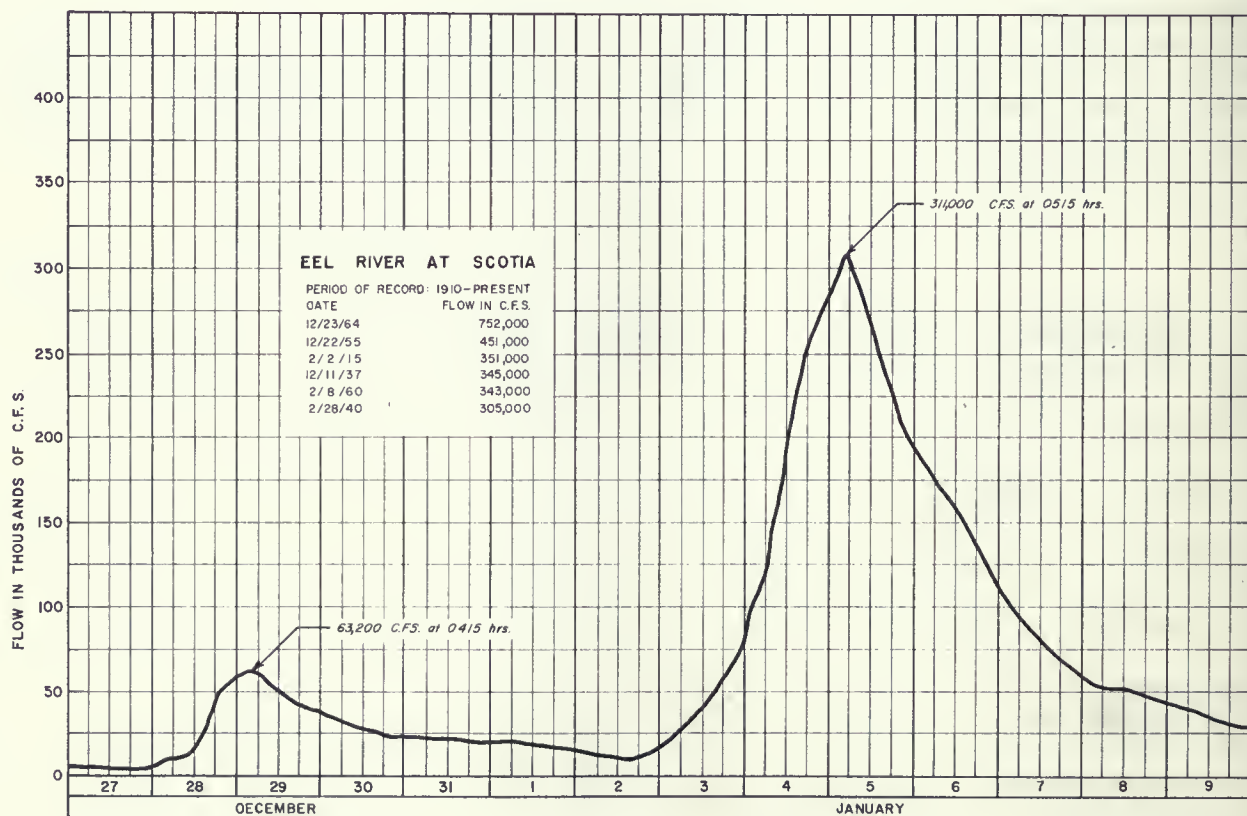
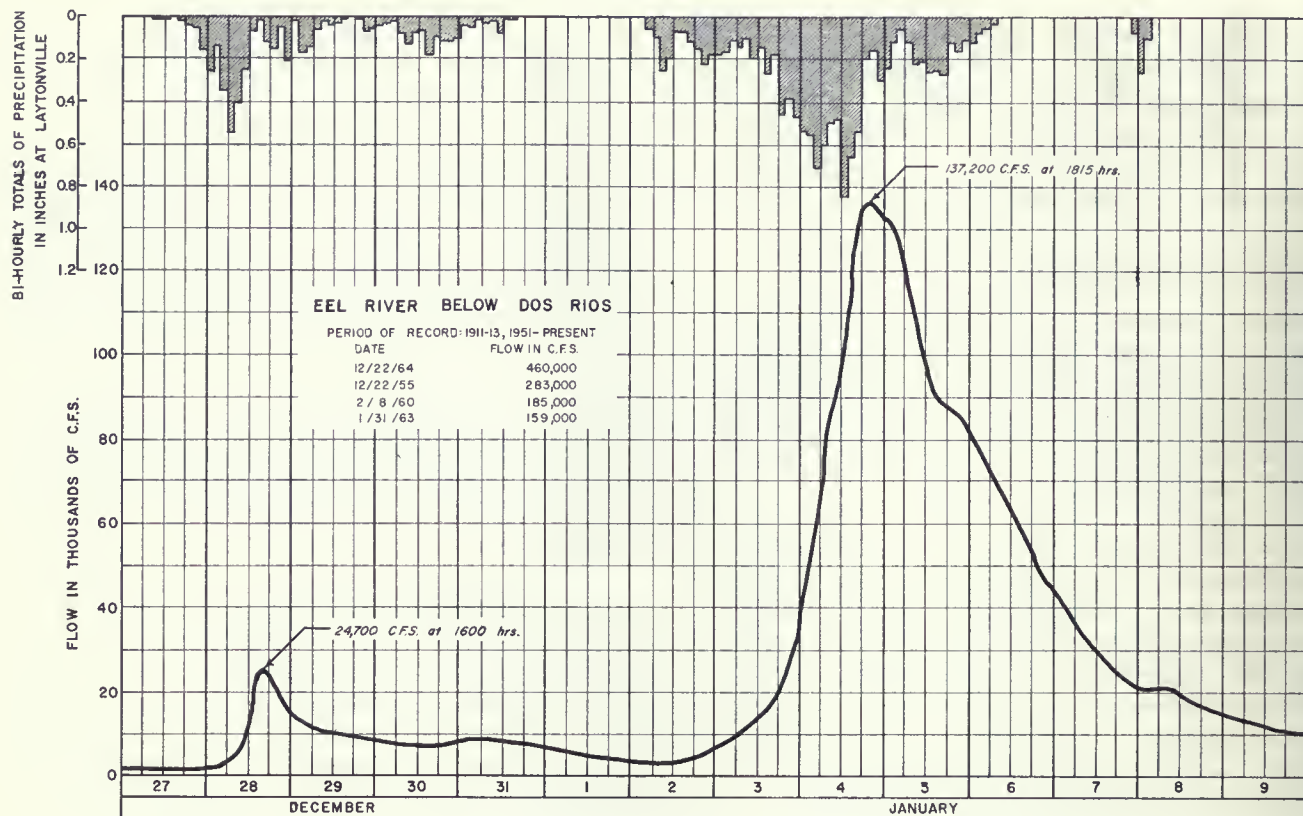
Basin soils approached the saturation point. When heavy rains hit on January 4 and 5, runoff along the Eel River and tributaries became significant. Table 7 reports rainfall totals of this storm.

On the evening of January 4, the Eel River below Dos Rios peaked at 137,200 cfs (Plate 16); the maximum flow of record (460,000 cfs) occurred in December, 1964. Around midnight, the river at Fort Sewart peaked at 163,000 cfs, considerably below the record peak of 561,000 cfs in December 1964.

At Miranda, the South Fork Eel River peaked at 106,400 cfs on the night of January 4 (Plate 15): the resulting 33-foot stage was six feet above flood stage. The maximum recorded peak flow

Table 7: Eel River Basin Rainfall: January 1966 Storm

| Precipitation Station | Observation Time | 14-Day Rainfall Total Dec. 24 - Jan. 6 (Inches) | 3-Day Rainfall Total Jan. 3 - 5 (Inches) |
|-------------------------------|------------------|---|--|
| Alderpoint | 8 a.m. | 18.23 | 10.11 |
| Bridgeville 4NNW | 8 a.m. | 18.40 | 7.86 |
| Covelo | 8 a.m. | 16.02 | 9.12 |
| Garberville | 8 a.m. | 20.19 | 9.12 |
| Miranda Spengler Ranch | 12 mid. | 18.24 | 10.11 |
| Standish-Hickey State Park | 8 a.m. | 26.64 | 15.33 |



HYDROGRAPHS OF EEL RIVER

for this station was 199,000 cfs in December 1964.

The gage at Scotia is located below the confluence of the South Fork Eel with the Eel River. Flow peaked at 311,000 cfs on the morning of January 5 and produced a stage of 45.47 feet. The flood stage at this station is 45.0 feet. The maximum recorded peak flow of 752,000 cfs occurred in December 1964.

The Van Duzen River, fourth major tributary of the Eel, joins the Eel several miles below Scotia. Near Bridgeville, flow peaked at a moderate 17,700 cfs on December 28, and at a relatively high 30,300 cfs on January 4. The maximum peak flow for this station, 48,700 cfs, occurred in December 1964. The combined flows of the Van Duzen and Eel Rivers flooded the low farmlands of the Eel River Delta.

Table 8 reports runoff of the January storm.

Russian River Basin

Over the Russian River Basin light rainfall began on January 1, increased slowly

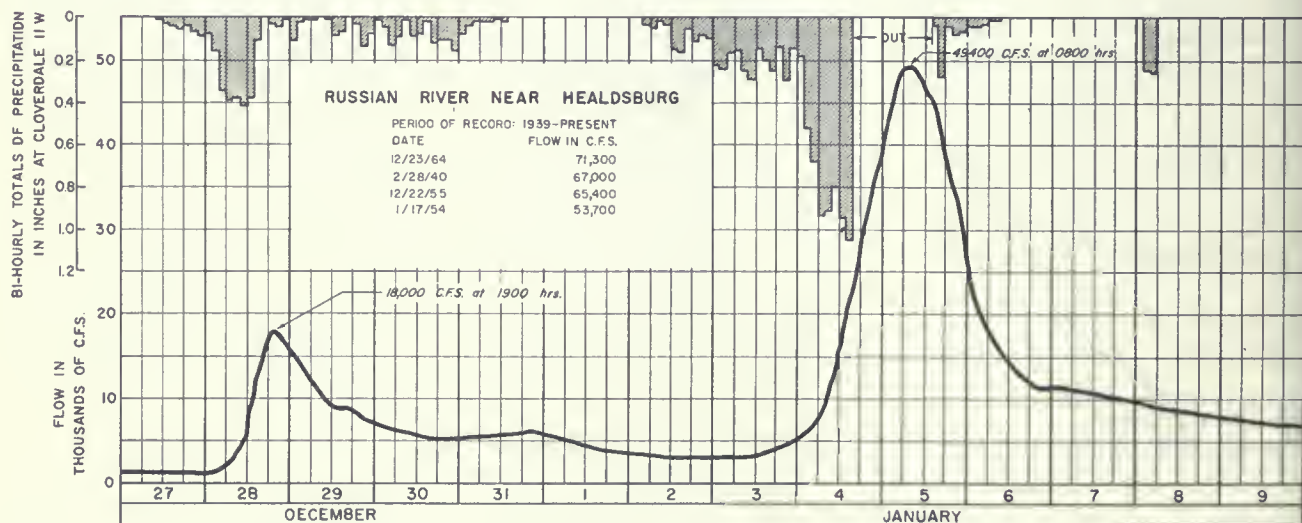
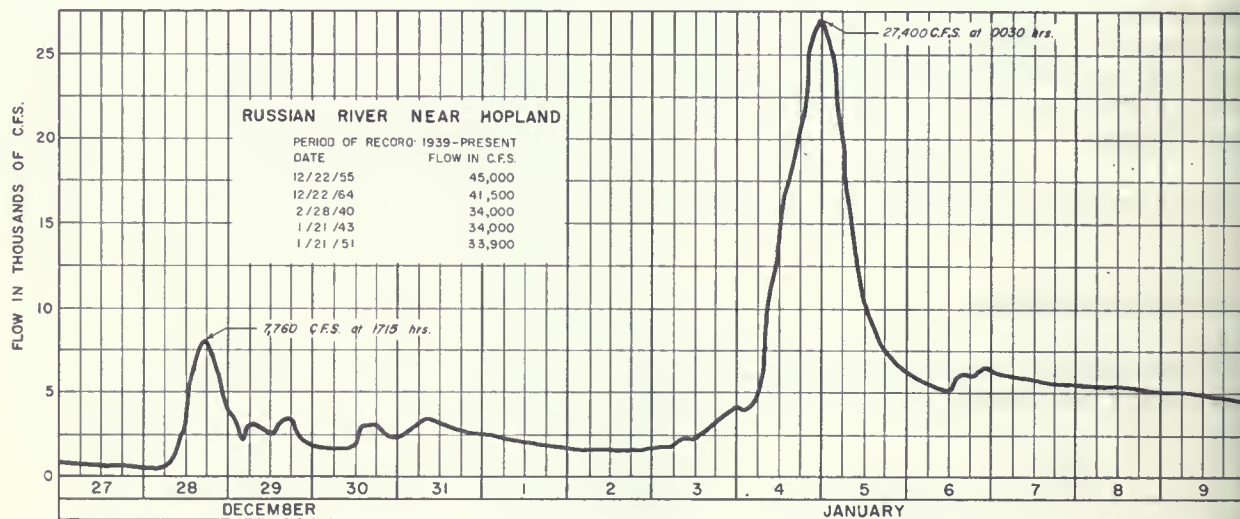
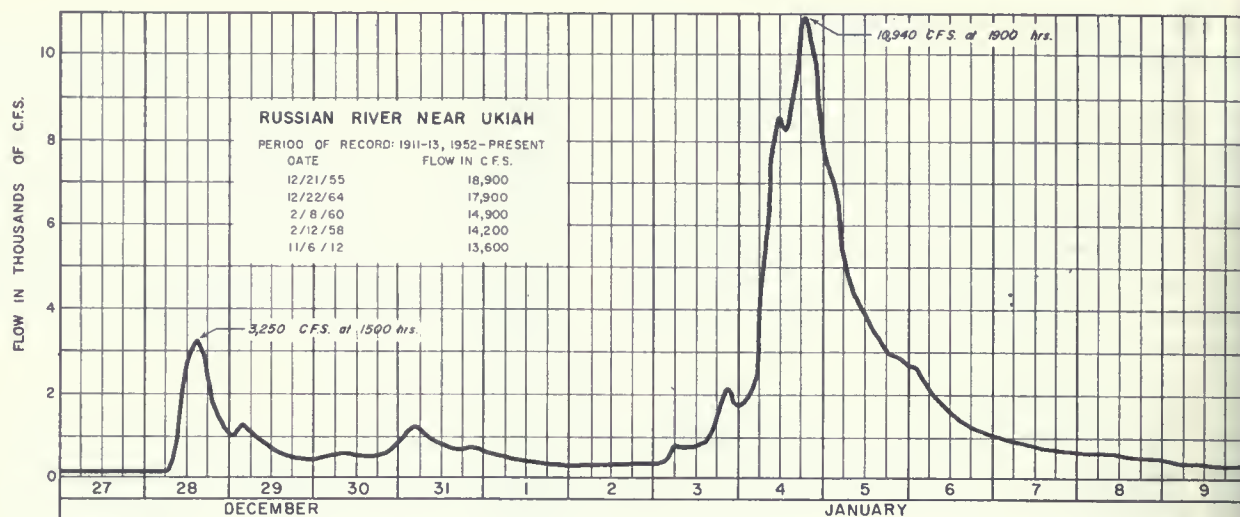
ly through January 3, and tapered off on January 5. Many rain gages in the basin recorded 3 to 7 inches on January 4. Russian River rose slowly at first but then, in response to heavy rainfall on January 4 rose rapidly, peaking at many points on January 5. The peak inflow to Lake Mendocino of about 9,890 cfs on January 4 added about 20,000 acre-feet of water to the lake by January 5. Peak outflow from Coyote Dam during this period was 107 cfs.

Fifteen miles downstream from Coyote Dam, the Russian River near Hopland peaked at 27,400 cfs (Plate 17). On January 4, just before midnight, it reached a stage of 21.31 feet. Downstream, near Healdsburg, the river reached the 22-foot stage (49,400 cfs) about 9 hours later. At Summerhome, a peak of about 77,000 cfs (45.28 feet) hit between 2 and 4 p.m. on January 5. This flow, the fourth highest since the gaging station was established in 1939, was exceeded only by the floods of 1940, 1955, and 1964. Minor floods affected agricultural bottomland and resort areas.

Table 9 reports runoff of the January storm.

Table 8: Eel River Basin Runoff: January 1966 Storm

| Stream Gaging Station | Drainage Area (Sq. Mi.) | Peak Stage (Feet) | Peak Discharge (c.f.s.) | Jan. 2-9 Runoff Volume | |
|----------------------------|-------------------------|-------------------|-------------------------|------------------------|--------|
| | | | | Acre-Feet | Inches |
| Eel below Dos Rios | 1,484 | 34.47 | 137,200 | 678,000 | 8.58 |
| Eel at Fort Seward | 2,079 | 43.33 | 163,000 | 814,000 | 7.34 |
| Eel near Miranda | 537 | 32.9 | 106,400 | 446,000 | 15.61 |
| Van Duzen near Bridgeville | 216 | 18.2 | 30,300 | -- | -- |
| Eel at Scotia | 3,113 | 45.47 | 311,000 | 1,633,000 | 9.85 |



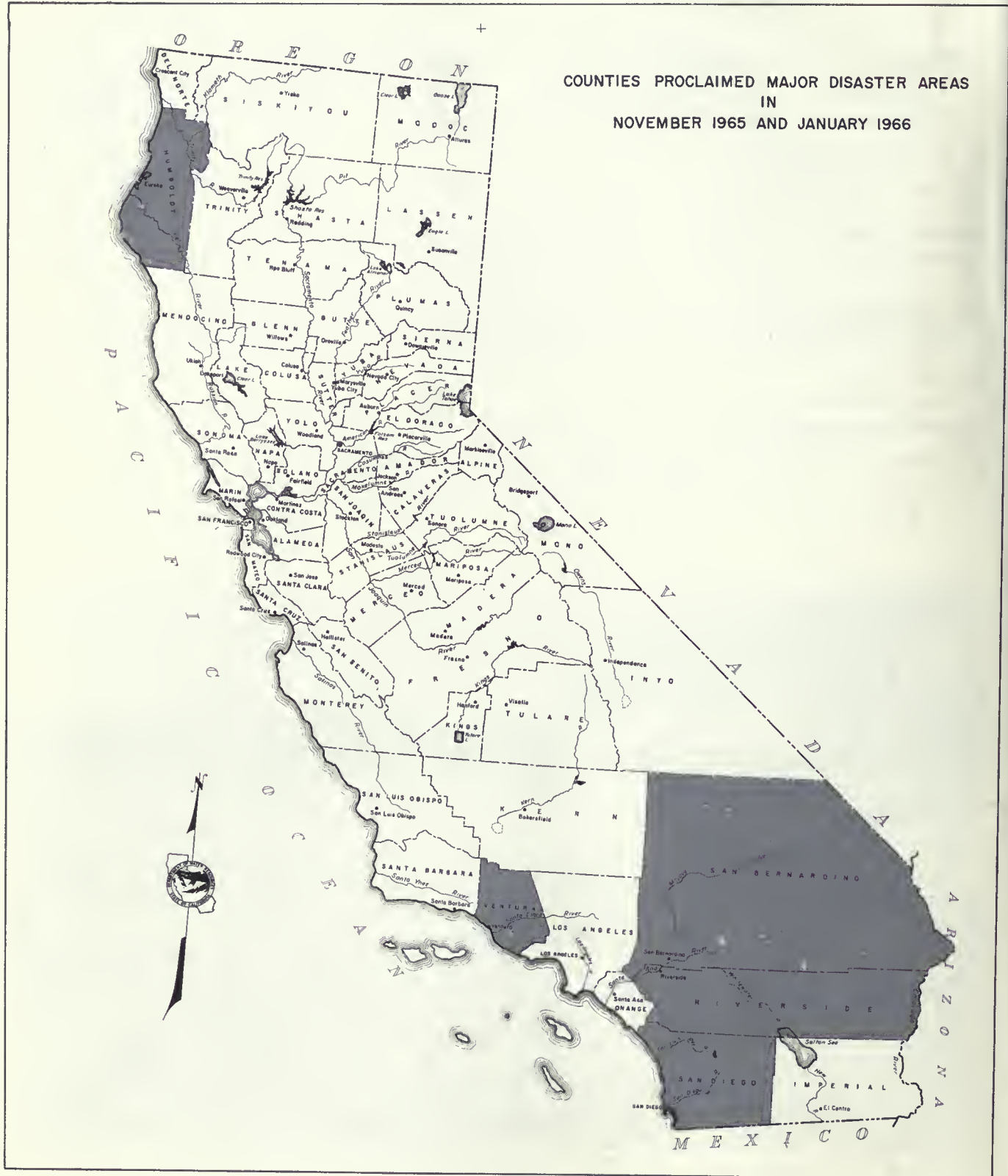
HYDROGRAPHS OF RUSSIAN RIVER

Table 9: Russian River Basin Runoff: January 1966 Storm

| Stream Gaging Station | Drainage Area (Sq. Mi.) | Peak Stage (Feet) | Peak Discharge (cfs) | Inches | Acre- Feet | Period Jan. |
|--|-------------------------------|-------------------------|----------------------------|--------|---------------|----------------|
| E. F. Russian River near Calpella | 93 | 13.66 | 9,890 | 4.2 | 20,500 | 4-5 |
| Russian River near Hopland | 362 | 21.31 | 27,400 | 2.9 | 56,000 | 4-5 |
| Russian River near Healdsburg | 793 | 22.00 | 49,400 | 3.8 | 162,000 | 4-6 |
| Russian River near Guerneville (at Summerhome) | 1,340 | 45.28 | 77,000 | 5.3 | 383,000 | 4-8 |



Singley Road, west of Fernbridge, in the Eel River Valley (Humboldt Newspapers, Inc.)



Flood Damage in Southern California

Widespread flooding occurred in six Southern California counties in November and December 1965. Flood damage was severe in Ventura, Riverside, San Bernardino and San Diego Counties. The Governor proclaimed these counties as disaster areas, and federal funds were made available under the authority of public Law 875 for emergency repair of public facilities.

Flooding also occurred in Los Angeles and Santa Barbara Counties, but to a lesser degree.

As a result of the storms and floods, fourteen people died; damages in the four disaster areas exceeded 13 million dollars; public utility services and highway travel were interrupted for days.

Ventura County

In Ventura County, flooding occurred in the Simi Valley during the first November storm (13-19). The channel of the Douglas Simi Protection District suffered an estimated \$100,000 in damages. Silt and debris plugged concrete-lined stretches of Hummingbird Creek and Arroyo Simi in the Santa Susana area and blocked an unlined stretch of Arroyo Simi near Santa Susana Knolls. Scores of families were evacuated as overflow washed into residential areas. Flood waters damaged 63 homes near the channel.

Flooding was not limited to Simi Valley. Floods damaged the channel lining of the Oxnard West, Rice Road, and West Camarillo Hills Drains and the channel of Lang Creek. In all, such damages reached an estimated \$120,000.

Floods of the second November storm washed out the Santa Ana Boulevard Bridge as well as several minor bridges across the upper Ventura River. Mud slides and high water forced the closing of State Highway 150 and several other roads. Flood control facilities, quite fortunately, were unharmed.

The late December storm cost two lives. Two Ventura County hydrographers drowned in the Santa Clara River while attempting to measure the record peak flow.

Riverside County

Floods took nine lives in Riverside County. Most November flooding occurred along the Whitewater and Santa Ana Rivers. The Wrightwood area on the north slope of the San Gabriel Mountains suffered minor damage. In December, some of the same areas flooded again.

Heavy flows along the Whitewater River washed out twenty-two county road crossings between Cabazon and Indio. Large volumes of boulders and gravel, swept along by the flow, helped scour and badly damage a 13-mile stretch of channel between Cathedral City and the Salton Sea. The Coachella Valley Water Conservation District estimated the damage at \$460,000. South of Thermal, the river flooded about 2,200 acres of producing farmland, eroded fields, and deposited layers of fine mud as it receded. Crops, citrus and date trees suffered extensive damage.

Tahquitz Creek washed out numerous road crossings, damaged bridge abutments of State Highway 111, and isolated Palm Springs from that highway and from State Highway 10. Flood waters swept more than 50 automobiles into the streams and drainage channels of the Tahquitz Creek and Whitewater River Basins.

In Desert Hot Springs, flood waters



Washout Near Rancho Mirage

WHITEWATER RIVER

Vista Chino Road Near Palm Springs



deposited debris and slightly eroded streets but damaged little else in town. West of town, Big and Little Morongo washes eroded banks, washed out the road at dip crossings, damaged a few houses, and swept away several cars.

The swirling Santa Ana River badly damaged bridges and highway crossings. Although moderate damage in Corona in general necessitated only street clean-up, the waters inundated low-lying farmlands near the city and drowned cattle and horses.

In Redlands, dikes, streets, the sewage plant and other public utilities suffered. To the west, Mission Creek overtopped its small channel and flooded farmland and citrus trees. Estimated damage in and near Redlands was \$230,000.

East of San Jacinto, the flooding San Jacinto River washed out an uncompleted levee, inundated an uncompleted golf course, and destroyed several pieces of heavy construction equipment. Debris, piled in a dip-crossing, blocked State Highway 79 for about two days. To the northwest, pastures flooded, but not deeply enough to drown cattle. Near Hemet, the river blocked access to some residences. Estimated damage along the river was \$180,000.

San Bernardino County

In San Bernardino County, three persons drowned.

In the City of San Bernardino, floods deposited debris in the eroded streets, damaged telephone, electric, gas, and other public utilities and interrupted service.

In Scotland, fifteen miles northwest of San Bernardino, damage to about 40 houses ranged from a few hundred dollars to virtual destruction. Boulders and gravel piled up against the homes and, in some cases, broke walls. Several washouts along Lyle Creek required extensive repairs to the highway.

Along Cucamonga Creek, high-velocity waters damaged roads so badly -- particularly at dip crossings -- that they were closed for weeks afterward.

In Wrightwood, about 25 miles west of San Bernardino, mud and rocks flowed from canyons, overtopped poorly defined channels, piled against houses, damaged streets, covered residential property, and damaged the contents of about 40 homes.

When the high waters of Deep Creek and West Fork Mojave River poured into the Mojave River, the resulting record peak flow forced many persons from their lowland homes. Between Victorville and Barstow the river blocked all bridges and crossings; near Helendale it washed out one bridge and badly eroded the approach to another. Erosion and silt deposition badly damaged farmland. Although the river reached flood stage at Barstow, it did not cause appreciable residential damage.

San Diego County

Damages in San Diego County resulted from floods along the San Diego, Sweetwater, and Tia Juana Rivers and their tributaries.

Forester Creek flooded Santee with 4 to 5 inches of water. Lakeside suffered minor flooding from Coches Creek. Sweetwater River overflow damaged commercial areas and homes. Severe damage in the Midway-Barnett area of San Diego resulted from the flooding of numerous business establishments. Widespread mudslides impaired traffic throughout the city; Highway 101 was closed.

Los Angeles County

In Los Angeles County, debris in Newhall Creek, Sand, Iron, and Wiley Canyons constricted channel inlets; increased velocities damaged improved channel facilities. San Fernando Valley reported damage along Stetson, Hog, and Sombrero Creeks. The Charter Oaks flood channel, under



Starvation Flats (Humboldt Newspapers, Inc.)

construction, suffered damage.

An avalanche of mud blocked a 200-foot stretch of the Pacific Coast Highway for more than 24 hours. Considerable localized flooding occurred within the City and County of Los Angeles; but channels and drains prevented widespread general flooding.

Santa Barbara County

Near Carpinteria, in Santa Barbara County, Franklin Creek overflowed its banks and inundated several homes and a considerable area. In Goleta, San Pedro Creek overtopped and flooded developed areas. In Santa Maria, erosion severely damaged Bradbury Channel.

Flood Damage in North Coastal Hydrographic Area

On January 4, a storm struck hard in Northern California; precipitation was heavy, widespread, and accompanied with gale force winds. The storm hammered coastal areas, blocking rail and highway traffic, closing schools and businesses. Thousands of stranded travelers were housed temporarily in motels, hotels, churches, homes, and public buildings.

Although three to five inches of rain fell in some areas within 24 hours, this depth was well below the 14 inches which fell within the same period during the floods of Christmas, 1964. Furthermore, river flows, creating well below the highest of record, were about one-third to half their 1964 size. Flood damage, nevertheless was considerable.

Humboldt County

Rapidly rising streams inundated the lowlands of Humboldt County. More than 1,000 persons fled Orick and vicinity to escape the rising waters of Redwood Creek. South of Eureka, scores of people moved out or got ready to move because of the high flows in the Eel River.

Along the Van Duzen River, about 180 persons fled Starvation Flats; others refused evacuation and remained in their homes as the water surrounded them. The Governor declared the county a disaster area.

As the storm continued, it isolated the communities of McCann, Shively, Holmes, Ferndale, Hoopa, Weitchpec, Orleans and Willow Creek. The Humboldt County Sheriff's Office reported that at least 1,000 people were so affected. U. S. Highway 101 was closed at Fish Creek north of the Mendocino-Humboldt County line; U. S. Highway 199 was closed 3½ miles north of Patrick's Creek; State Route 299 was closed between Willow Creek and Del Loma; and State Route 96, between Orleans and Happy

Camp. At Garcia River about 2 miles north of Point Arena, Elk Creek changed channels and cut through State Route 1, closing it. The highway also was closed from Fernbridge to Ferndale.

The Eel River damaged about 120 farms, depositing debris over 20,000 acres. Of these, 1,100 acres suffered from particularly heavy concentrations.

The county suffered damages estimated at \$7 million. Damage to county roads and bridges alone was estimated at \$710,000.

Del Norte County

In Del Norte County, the Smith River flooded low lying pastures, isolated other areas, and forced the closing of both U. S. Highway 199 and North Bank Road. Although 200 people living in the area were evacuated to high ground, no houses were inundated.

The Klamath River swept away a temporary bridge on State Route 96, but did little other damage. Cattle were moved to high ground; and no loss of livestock was reported.

Table 10: Flood Damage in Declared Disaster Areas

| <u>County</u> | <u>Estimated Damage*</u> |
|-----------------------------------|--------------------------|
| Ventura County | |
| Public Property | \$1,100,000 |
| Public Utilities | 100,000 |
| Private Property | 420,000 |
| Agricultural | 350,000 |
| | <hr/> |
| Total | \$1,970,000 |
| Riverside County | |
| Public Property | \$2,190,000 |
| Public Utilities | 100,000 |
| Private Property | 430,000 |
| Agricultural | 370,000 |
| Railroad | 1,070,000 |
| | <hr/> |
| Total | \$4,160,000 |
| San Bernardino County | |
| Public Property | \$4,565,000 |
| Public Utilities | 440,000 |
| Private Property | 715,000 |
| Agricultural | 130,000 |
| Railroad | 260,000 |
| | <hr/> |
| Total | \$6,110,000 |
| San Diego County | |
| Public Property and Miscellaneous | \$ 9,000 |
| Public Utilities | 202,000 |
| Private Property | 561,000 |
| Roads and Drainage Systems | 314,000 |
| | <hr/> |
| Total | \$1,086,000 |
| Humboldt County | |
| Public Property | \$4,000,000 |
| Public Utilities | 10,000 |
| Private Property | 2,040,000 |
| Agricultural Losses | 450,000 |
| Railroad | 350,000 |
| | <hr/> |
| Total | \$6,850,000 |

*From U. S. Corps of Engineers, County Disaster offices, local public agencies, and State Department of Water Resources.

Accelerated growth since 1950 has resulted in extensive development of the flood plains of the State. Recurrent floods have subjected these developments to intense damage. Although flood control works have been constructed to protect many areas, local development within the flood plains has increased more rapidly than the installation of protective works.

Recognizing that the State's land resources are a limited, valuable, and irreplaceable resource which must be carefully developed, the State Legislature, at the 1965 regular session, passed the Cobey-Alquist Flood Plain Management Act. This Act declares that the public interest necessitates the prevention of loss of life and of economic loss caused by

excessive flooding; that the primary responsibility for establishing and enforcing flood plain regulation rests with local government; that State Policy encourages local government to establish and enforce such needed regulations; and that the State should provide appropriate assistance and guidance.

The importance of the flood problem in California is emphasized by the many flood control facilities and the hundreds of reclamation and flood control districts, federal agencies, and state agencies engaged in flood mitigating programs. Flood experience indicates, however, that additional flood protection must be provided rapidly.



March 1940



July 1963

Accelerated Growth in Los Angeles County

Table 11
Peak Flows and Stages
(Preliminary Data, Subject to Revision)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------------|----------------------|--------------------|--------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| North Coastal Area | | | | | | | | | |
| Middle Fork Smith River at Gasquet | 130 | 1911-18 1958- | USGS | 12/22/64 | 22.2 | 41,000 | Discontinued | | |
| Smith River near Crescent City | 609 ^r | 1931- | USGS | 12/22/64 | 48.5 | 228,000 | 1/ 6/66 | 38.53 | 144,500 |
| Shasta River near Yreka | 793 ^r | 1933-41 1944- | USGS | 12/22/64 | 12.92 | 21,500 ^c | 1/ 5/66 | 5.56 | 1,330 |
| Scott River near Fort Jones | 653 ^r | 1941- | USGS | 12/22/64 | 25. | 54,600 | 1/ 6/66 | 8.86 | 4,580 |
| Klamath River near Seiad Valley | 6,980 | 1912-25 1951- | USGS | 12/22/64 | 33.75 | 165,000 ^c | 1/ 6/66 | 11.00 | 15,000 |
| South Fork Salmon River near Forks of Salmon | 252 | 1957- | USGS | 12/22/64 | 21.73 | 31,400 | Discontinued | | |
| North Fork Salmon River near Forks of Salmon | 203 ^r | 1958- | USGS | 12/22/64 | 28.2 ^h | 25,100 | Discontinued | | |
| Salmon River at Somesbar | 746 | *1911- | USGS | 12/22/64 | 43.4 ^h | 133,000 | 1/ 6/66 | 13.73 | 23,600 |
| Klamath River at Orleans | 8,480 | 1927- | USGS | 12/22/64 | 76.5 ^h | 307,000 ^c | 1/ 6/66 | 23.65 | 106,000 |
| Red Cap Creek near Orleans | 56.1 | 1958- | USGS | 12/22/64 | - | 15,000 ^e | Discontinued | | |
| Bluff Creek near Weitchpec | 74.6 | 1958- | USGS | 12/22/64 | - | 27,000 | Discontinued | | |
| Trinity River above Coffee Creek, near Trinity Center | 149 | 1957- | USGS | 12/22/64 | 12.30 | 20,800 | 3/ 9/66 | 5.98 | 2,600 |
| Trinity River at Lewiston | 728 ^r | 1911- | USGS | 12/22/55 | 27.3 ^h | 71,600 | 5/10/66 | 4.66 | 1,030 ^c |
| North Fork Trinity River at Helena | 151 | 1911-13 1957- | USGS DWR | 12/22/64 | 27.93 ^h | 35,800 | 4/ 1/66 | 12.10 | 1,850 ^e |
| Trinity River near Burnt Ranch | 1,439 ^r | 1931-40 1956- | USGS | 12/22/55 | 43.2 ^h | 172,000 | 1/ 6/66 | 8.56 | 5,360 |
| New River at Denny | 173 | 1927-28 1959- | USGS | 12/22/64 | 38.7 ^h | 60,000 ^e | 1/ 6/66 | 15.5 | 5,700 |
| South Fork Trinity River at Forest Glen | 208 | 1959- | USGS | 12/22/64 | 27.7 ^h | 41,200 | Discontinued | | |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|--------------------|----------------------|--------------------|--------------|----------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| North Coastal Area (Continued) | | | | | | | | | |
| South Fork Trinity River near Hyampom | 342 | 1956- | USGS | 12/22/64 | 25.8 | 57,100 ^e | Discontinued | | |
| Hayfork Creek near Hayfork | 86.7 ^r | 1956- | USGS | 12/22/64 | 14.56 | 7,520 | Discontinued | | |
| Hayfork Creek near Hyampom | 378 ^r | 1953- | USGS | 12/22/64 | 19.14 | 28,800 | 1/ 4/66 | 11.75 | 8,930 |
| South Fork Trinity River near Salyer | 898 ^r | 1911-13 1950- | USGS | 12/22/64 | 47.6 | 95,400 | 1/ 5/66 | 22.5 | 49,000 |
| Willow Creek near Willow Creek | 43.3 | 1959- | USGS | 12/22/64 | 25.3 ^h | 17,000 ^e | 1/ 4/66 | 10.0 | 3,100 |
| Trinity River at Hoopa | 2,847 ^r | *1911- | USGS | 12/22/64 | 40.3 | 231,000 ^c | 1/ 5/66 | 31.33 | 46,500 ^c |
| Klamath River near Klamath | 12,100 | *1910- | USGS | 12/23/64 | 55.3 | 557,000 ^c | 1/ 6/66 | 26.14 | 152,000 ^c |
| Redwood Creek near Blue Lake | 67.5 | 1953-58 1964- | USGS | 12/22/64 | 16.05 | 16,400 | | | * |
| Redwood Creek at Orick | 278 | 1911-13 1953- | USGS | 12/22/64 | 24.0 | 50,500 | 1/ 4/66 | 21.82 | 39,600 |
| Little River at Crannell | 44.3 | 1955- | USGS | 1/20/64 | 11.06 | 8,240 | 1/ 4/66 | 11.12 | 8,300** |
| Mad River near Forest Glen | 143 | 1953- | USGS | 12/22/55 | 24.5 ^h | 39,200 | 1/ 4/66 | 10.94 | 9,500 ^c |
| North Fork Mad R. near Korbelt | 40.5 | 1957- | USGS | 12/22/64 | 20.02 | 15,400 | Discontinued | | |
| Mad River near Arcata | 484 | 1910-13 1950- | USGS | 12/22/55 | 27.30 ^b | 77,800 | 1/ 4/66 | 19.40 | 36,000 ^c |
| Jacoby Creek near Freshwater | 6.07 | 1954- | USGS | 12/30/54 | 7.20 | 1,670 | | | * |
| Elk River near Falk | 44.2 | 1957- | USGS | 12/22/64 | 28.09 | 3,430 | 1/ 4/66 | | * |
| Eel River below Scott Dam, near Potter Valley | 290 | 1922- | USGS | 12/22/64 | 24.24 ^h | 56,300 ^h | 1/ 5/66 | 16.36 | 18,400 ^c |
| Eel River at Van Arsdale Dam, near Potter Valley | 349 | *1909- | USGS | 12/22/64 | 33.9 ^h | 64,100 ^c | 1/ 5/66 | 20.72 | 20,500 ^c |
| Outlet Creek near Longvale | 161 ^r | 1956- | USGS | 12/22/64 | 30.6 ^h | 77,900 | 1/ 4/66 | 18.99 | 28,900 |
| Eel River above Dos Rios | 705 | 1950- | USGS | 12/22/64 | 55.4 ^h | 184,000 ^c | Discontinued | | |
| Black Butte River near Covelo | 162 | *1951- | USGS | 12/22/64 | 26.4 ^h | 29,000 | 1/ 4/66 | 16.12 | 11,700 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|-------------------|----------------------|--------------------|--------------|----------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| North Coastal Area (Continued) | | | | | | | | | |
| M. F. Eel River below Black Butte River near Covelo | 367 | 1951- | USGS | 12/22/64 | 31.7 ^h | 133,000 | 1/ 4/66 | 16.2 | 36,300 |
| Eel River below Dos Rios | 1,484 | 1911-13 1951- | USGS | 12/22/64 | 62.5 ^h | 460,000 ^c | 1/ 4/66 | 34.47 | 137.200 ^c |
| North Fork Eel River near Mina | 250 | 1953- | USGS | 12/22/64 | 33.6 ^h | 133,000 | 1/ 4/66 | 25.39 | 51,700 |
| Eel River at Fort Seward | 2,079 | 1955- | USGS | 12/22/64 | 87.2 ^h | 561,000 ^c | 1/ 4/66 | 43.33 | 163,000 ^c |
| South Fork Eel R. nr. Branscomb | 43.9 | 1946- | USGS | 12/22/55 | 16.20 | 20,100 | 1/ 4/66 | 14.68 | 16,400 |
| Tenmile Creek near Laytonville | 50.3 | 1957- | USGS | 12/22/55 | 22.9 ^h | 16,300 | 1/ 4/66 | 15.26 | 8,160 |
| South Fork Eel River near Miranda | 537 | 1939- | USGS | 12/22/64 | 46.0 ^h | 199,000 | 1/ 4/66 | 32.92 | 106,400 |
| Bull Creek near Weott | 28.1 | 1960- | USGS | 12/22/64 | 20.6 ^h | 6,520 | | | * |
| Larabee Creek near Holmes | 84.1 | 1959- | USGS | 12/22/64 | 13.05 | 11,400 | Discontinued | | |
| Eel River at Scotia | 3,113 | *1910- | USGS | 12/23/64 | 72.0 ^h | 752,000 ^c | 1/ 5/66 | 45.47 | 311,000 |
| South Fork Van Duzen River nr. Bridgeville | 36.2 | *1951- | USGS | 12/22/64 | 18.70 | 13,600 | 1/ 4/66 | 13.99 | 7,190 |
| Van Duzen River near Bridgeville | 216 | 1950- | USGS | 12/22/64 | 22.6 | 48,700 | 1/ 5/66 | 18.2 | 30,300 |
| Mattole River near Petrolia | 240 | *1911- | USGS | 12/22/55 | 29.60 | 90,400 | 1/ 4/66 | 24.48 | 56,900 |
| Noyo River near Fort Bragg | 106 | 1951- | USGS | 12/22/64 | 26.30 | 24,000 | 1/ 5/66 | 24.72 | 19,300 |
| Rancheria Creek near Boonville | 65.6 | 1959- | USGS | 12/22/64 | 20.52 | 20,000 | 1/ 4/66 | 16.08 | 10,300 |
| Navarro River near Navarro | 303 | 1950- | USGS | 12/22/55 | 40.60 | 64,500 | 1/ 4/66 | 34.34 | 33,100 |
| South Fork Gualala River near Annapolis | 161 | 1950- | USGS | 12/22/55 | 24.57 | 55,000 | 1/ 4/66 | 24.09 | 47,800 |
| Russian River near Ukiah | 99.7 | *1911- | USGS | 12/21/55 | 21.0 | 18,900 | 1/ 4/66 | 14.20 | 10,940 |
| East Fork Russian River near Calpella | 93.0 | 1941- | USGS | 12/22/64 | 20.21 | 18,700 ^c | 1/ 4/66 | 13.66 | 9,890 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|-------------------|---------------------|--------------------|-------------------|---------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| North Coastal Area (Continued) | | | | | | | | | |
| Russian River near Hopland | 362 | 1939- | USGS | 12/22/55 | 27.00 | 45,000 | 1/ 5/66 | 21.31 | 27,400 ^c |
| Feliz Creek near Hopland | 31.1 | 1958- | USGS | 12/22/64 | 14.10 | 6,080 | 1/ 4/66 | 11.74 | 4,190 |
| Russian River near Cloverdale | 502 | 1951- | USGS | 12/22/64 | 31.60 | 55,200 ^c | 1/ 5/66 | 24.37 | 32,600 ^c |
| Big Sulphur Creek near Cloverdale | 82.3 | 1957- | USGS | 12/22/55 | 22.2 ^h | 20,000 | 1/ 4/66 | 12.96 | 11,100 |
| Russian River near Healdsburg | 793 | 1939- | USGS | 12/23/64 | 27.00 | 71,300 ^c | 1/ 5/66 | 22.00 | 49,400 ^c |
| Dry Creek near Cloverdale | 87.8 | 1941- | USGS | 12/22/64 | 18.09 | 18,100 | 1/ 4/66 | 13.54 | 10,700 |
| Dry Creek near Geyserville | 162 | 1959- | USGS | 1/31/63 | 17.50 | 32,400 | 1/ 4/66 | 14.95 | 19,800 |
| Santa Rosa Creek near Santa Rosa | 12.5 | 1959- | USGS | 2/ 8/60 | 13.35 | 3,200 | 1/ 5/66 | 10.3 ^a | 1,590 |
| Russian River near Guerneville (Summerhome) | 1,340 | *1939- | USGS | 12/23/64 | 49.6 | 93,400 ^c | 1/ 5/66 | 45.28 | 77,000 ^c |
| Austin Creek near Cazadero | 63.1 | 1959- | USGS | 2/13/62 | 20.6 ^j | 15,100 | 1/ 4/66 | 18.00 | 14,000 |
| San Francisco Bay Area | | | | | | | | | |
| Walker Creek near Tomales | 37.1 | 1959- | USGS | 1/ 5/65 | 19.86 | 4,340 | 1/ 5/66 | 22.23 | 5,420** |
| Corte Madera Creek at Ross | 18.1 | 1951- | USGS | 12/22/55 | 17.45 | 3,620 | 1/ 5/66 | 16.62 | 2,880 ^c |
| Novato Creek near Novato | 17.5 | 1946- | USGS | 1/20/64 | 8.74 | 1,330 | 1/ 4/66 | 4.80 | 549 ^c |
| Sonoma Creek at Boyes Hot Springs | 62.2 | 1955- | USGS | 12/22/55 | 17.10 | 8,880 | 1/ 5/66 | 13.60 | 6,430 |
| Napa River near St. Helena | 81.4 ^r | *1929- | USGS | 12/22/55 | 16.17 | 12,600 | 1/ 5/66 | 13.13 | 9,190 |
| Dry Creek near Napa | 17.4 | 1951- | USGS | 2/24/58 | 8.11 | 3,460 | 1/ 5/66 | 5.52 | 1,090 |
| Napa River near Napa | 218 | *1929- | USGS | 1/31/63 | 27.59 | 16,900 | 1/ 5/66 | 21.22 | 10,400 ^c |
| Redwood Creek near Napa | 9.81 | 1958- | USGS | 1/ 5/65 | 10.44 | 1,450 | 1/ 5/66 | 9.50 | 1,250 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------------|---------------------|--------------------|-------------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| San Francisco Bay Area (Continued) | | | | | | | | | |
| San Ramon Creek at San Ramon | 5.89 | 1952- | USGS | 10/13/62 | 16.98 | 1,600 | 12/29/65 | 2.97 | 92 |
| San Ramon Creek at Walnut Creek | 50.8 | 1952- | USGS | 1/31/63 | 14.40 | 7,980 | 12/28/65 | 5.16 | 814 |
| Walnut Creek at Walnut Creek | 79.2 | 1952- | USGS | 4/ 2/58 | 20.2 | 12,200 | 12/28/65 | 4.81 | 1,410 ^c |
| San Lorenzo Creek at Hayward | 37.5 | *1939- | USGS | 10/13/62 | 19.73 ^h | 7,460 | 12/29/65 | 7.01 | 252 ^c |
| Arroyo Mocho near Pleasanton | 143 | 1962- | USGS | 2/ 1/63 | 8.60 | 1,760 | 12/29/65 | 3.51 | 164 |
| Arroyo Valle near Livermore | 147 | *1912- | USGS | 12/23/55 | 13.93 ^h | 18,200 | 12/29/65 | 4.04 | 370 |
| Arroyo Valle at Pleasanton | 171 | 1957- | USGS | 3/ 2/48 | 25.36 | 11,300 | 12/31/65 | 8.19 | 416 |
| Alameda Creek near Niles | 633 | 1891- | USGS | 12/23/55 | 14.9 | 29,000 ^c | 12/29/65 | 4.72 | 755 ^c |
| Patterson Creek at Union City | - | 1958- | USGS | 2/ 1/63 | 20.4 ^h | 10,500 ^c | 12/29/65 | 9.54 | 739 ^c |
| Alameda Creek at Union City | 653 | 1958- | USGS | 2/ 1/63 | 19.25 ^h | 1,770 ^c | 11/24/65 | 11.46 | 233 ^c |
| Coyote Creek near Madrone | 196 | *1902- | USGS | 3/ 7/11 | - | 25,000 | 5/2-4/66 | 2.57 ^c | 110 ^c |
| Upper Penitencia Creek at San Jose | 21.5 | 1961- | USGS | 3/28/63 | 3.53 | 295 | 12/28/65 | 4.00 | 80 ^c |
| Alamitos Creek near New Almaden | 31.9 | 1958- | USGS | 4/ 2/58 | 9.67 | 4,300 ^c | 12/28/65 | 3.98 | 372 ^c |
| Los Gatos Creek at Los Gatos | 38.6 | *1929- | USGS | 2/27/40 | 14.71 ^b | 7,110 | 1/16/66 | 4.81 | 96 ^c |
| Guadalupe River at San Jose | 146 | 1929- | USGS | 4/ 2/58 | 16.55 | 9,150 ^c | 12/28/65 | 4.31 | 1,380 ^c |
| Saratoga Creek at Saratoga | 9.22 | 1933- | USGS | 12/22/55 | 6.40 | 2,730 | 12/28/65 | 2.98 | 152 ^c |
| Matadero Creek at Palo Alto | 7.24 | 1952- | USGS | 12/22/55 | 9.60 ^b | 854 | 12/28/65 | 2.71 | 311 |
| San Francisquito Creek at Stanford University | 37.5 | *1930- | USGS | 12/22/55 | 13.60 | 5,560 | 12/28/65 | 4.80 | 880 ^c |
| Redwood Creek at Redwood City | 1.82 | 1959- | USGS | 1/31/63 | 9.35 | 644 | 12/28/65 | 5.39 | 224 |
| Pescadero Creek near Pescadero | 45.9 | 1951- | USGS | 12/23/55 | 21.27 | 9,420 | 12/28/65 | 6.66 | 626 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|-------------------|---------------------|--------------------|--------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Coastal Area | | | | | | | | | |
| San Lorenzo River at Big Trees | 111 | 1936- | USGS | 12/23/55 | 22.55 | 30,400 | 12/29/65 | 4.80 | 1,080 ^c |
| Branciforte Creek at Santa Cruz | 17.3 | 1940-43 1952- | USGS | 12/22/55 | 22.04 | 8,100 | 12/29/65 | 6.19 | 277 |
| Soquel Creek at Soquel | 40.2 | 1951- | USGS | 12/23/55 | 22.33 | 15,800 | 12/25/65 | 6.15 | 805 |
| Llagas Creek near Morgan Hill | 19.6 | 1951- | USGS | 4/ 2/58 | 8.45 | 3,190 ^c | Regulated | No Peaks | |
| Bodfish Creek near Gilroy | 7.40 | 1959- | USGS | 1/31/63 | 8.25 | 1,240 | 12/28/65 | 4.21 | 130 |
| Tres Pinos Creek near Tres Pinos | 206 | 1939- | USGS | 4/ 4/41 | 7.75 | 8,060 | 12/31/65 | 5.40 | 1,350 |
| San Benito River near Hollister | 586 | 1949- | USGS | 4/ 3/58 | 16.30 | 11,600 | 1/ 1/66 | 5.47 | 912 ^c |
| Pajaro River at Chittenden | 1,186 | 1939- | USGS | 12/24/55 | 32.46 | 24,000 ^c | 12/31/65 | 8.94 | 1,320 ^c |
| Corralitos Creek near Corralitos | 10.6 | 1957- | USGS | 4/ 2/58 | 7.55 | 1,970 | 12/28/65 | 4.08 | 366 |
| Corralitos Creek at Freedom | 27.8 | 1956- | USGS | 12/22/55 | 15.6 ^h | 3,620 | 12/25/65 | 4.09 | 224 |
| Salinas River near Pozo | 74.1 | 1942- | USGS | 1/21/43 | 13.35 | 7,210 | 11/24/65 | 7.68 | 1,320 |
| Salinas River above Pilitas Creek near Santa Margarita | 114 | 1942- | USGS | 4/ 3/58 | 8.68 | 4,720 ^c | Regulated | No Peaks | |
| Jack Creek near Templeton | 25.3 | 1949- | USGS | 1/25/56 | 9.56 | 5,040 | 12/29/65 | 4.93 | 580 |
| Salinas River at Paso Robles | 389 | 1939- | USGS | 3/ 9/43 | 16.2 ^b | 14,200 ^c | Discontinued | | |
| Estrella River near Estrella | 924 ^r | 1954- | USGS | 4/ 6/58 | 7.20 | 8,850 | 12/31/65 | 2.88 | 308 |
| Nacimiento River near Bryson | 140 | 1955- | USGS | 12/23/55 | 24.63 | 30,300 | 12/28/65 | 10.94 | 6,200 |
| San Antonio River at Pleyto | 284 | *1922- | USGS | 4/ 3/58 | 6.44 | 19,100 | Discontinued | | |
| Salinas River near Bradley | 2,536 ^r | 1948- | USGS | 4/ 3/58 | 12.53 | 28,400 ^c | 1/ 1/66 | 5.63 | 1,010 ^c |
| Arroyo Seco near Soledad | 244 | 1901- | USGS | 4/ 3/58 | 16.40 | 28,300 | 12/28/65 | 10.19 | 4,530 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|----------------------------|--------------------------|----------------------|---------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Coastal Area (Continued) | | | | | | | | | |
| Salinas River near Spreckels | 4,157 ^r | *1900- | USGS | 2/12/38 1/16/52 | 25.0 26.85 | 75,000 ^c - | 1/ 2/66 | 11.87 | 654 ^c |
| Big Sur River near Big Sur | 46.5 | 1950- | USGS | 4/ 2/58 | 11.56 | 5,680 | 11/17/65 | 5.73 | 918 |
| Arroyo de la Cruz near San Simeon | 41.4 | 1950- | USGS | 12/23/55 | 12.40 | 17,700 | 1/29/65 | 8.42 | 5,420 |
| Santa Rosa Creek near Cambria | 12.5 | 1957- | USGS | 2/ 1/60 12/ 7/55 | 10.36 15.2 ^h | 2,520 - | 11/18/65 | 5.77 | 628 |
| Arroyo Grande at Arroyo Grande | 102 | 1939- | USGS | 1/15/52 | 11.97 | 5,370 | 11/23/65 | 3.20 | 220 |
| Sisquoc River near Garey | 472 | 1940- | USGS | 1/23/43 | 8.46 ^b | 13,000 | 12/29/65 | 6.10 | 2,220 |
| Santa Maria River at Guadalupe | 1,742 | 1940- | USGS | 1/16/52 | 8.18 ^b | 32,800 | 12/30/65 | 5.38 | 1,360 |
| Santa Ynez River below Gibraltar Dam, near Santa Barbara | 216 | 1920- | USGS | 3/ 2/38 | - | 35,500 ^c | 12/29/65 | 16.20 | 6,600 ^c |
| Santa Cruz Creek near Santa Ynez | 73.9 | 1941- | USGS | 2/ 9/62 | 9.75 | 4,520 | 12/29/65 | 7.80 | 2,030 |
| San Jose Creek near Goleta | 5.51 | 1941- | USGS | 4/ 4/41 | - | 1,960 | 11/16/65 | 9.32 | 1,700 |
| Atascadero Creek near Goleta | 18.8 ^r | 1941- | USGS | 1/15/52 | 10.85 | 4,500 | 11/16/65 | 12.78 | 4,600** |
| Carpinteria Creek near Carpinteria | 13.1 | 1941- | USGS | 1/15/52 | 9.75 | 2,440 | 11/24/65 | 7.90 | 2,300 |
| South Coastal Area | | | | | | | | | |
| Matilija Creek above res. near Matilija Hot Springs | 50.7 | 1948- | USGS | 1/15/52 | 12.1 | 8,800 | 11/16/65 12/29/65 | 8.00 9.89 | 5,400 5,540 |
| Matilija Creek at Matilija Hot Springs | 54.6 | 1927- | USGS | 3/ 2/38 | - | 15,900 | 11/24/65 12/29/65 | 6.85 9.89 | 2,620 ^c 5,500 ^c |
| North Fork Matilija Creek at Matilija Hot Springs | 15.6 | 1928-32 1939- | USGS | 3/ 2/38 | - | 5,580 | 11/24/65 12/29/65 | 7.37 5.57 | 1,570 1,570 |
| Ventura River near Meiners Oaks | 76.4 | 1959- | USGS | 2/10/62 | 7.1 | 7,590 ^c | 11/24/65 12/29/65 | 5.90 * | 4,420 ^c 7,910 ^{c**} |
| San Antonio Creek at Casitas Springs | 51.2 | 1949- | USGS | 4/ 3/58 | 12.80 | 5,240 | 11/24/65 12/29/65 | 10.84 9.30 | 2,750 2,100 |
| Coyote Creek near Oak View | 13.2 | 1958- | USGS | 2/ 9/62 | 7.45 | 1,700 ^q | 11/24/65 12/29/65 | 9.10 7.03 | 4,410** 1,780 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|-------------------|-------------------------------|----------------------|----------------|---|
| | | | | Date | Stage in ft. | Dischg in cfs | Date | Stage in ft. | Dischg. in cfs |
| <u>South Coastal Area (Continued)</u> | | | | | | | | | |
| Santa Ana Creek near Oak View | 9.11 | 1958- | USGS | 2/ 9/62 | 6.77 | 2,200 | 11/24/65 12/29/65 | 8.10 6.35 | 2,670** 1,400 |
| Ventura River near Ventura | 188 | 1911-14 1929- | USGS | 3/ 2/38 | 19.2 | 39,200 | 11/24/65 12/29/65 | 16.75 16.55 | 11,200 ^c 10,700 ^c |
| Santa Clara River at Los Angeles-Ventura County Line | 644 | 1952- | USGS | 2/11/62 3/ 2/38 | 9.65 - | 9,100 24,000 ^b | 11/24/65 12/29/65 | 10.73 11.50 | 12,200 34,100** |
| Piru Creek above Lake Piru | 372 | 1955- | USGS | 2/10/62 3/ 2/38 | 12.20 - | 12,200 35,000 ^b | 11/24/65 12/29/65 | 9.80 9.75 | 8,400 8,300 |
| Hopper Creek near Piru | 23.6 | *1930- | USGS | 3/ 2/38 | - | 8,000 | 11/24/65 12/29/65 | 6.28 6.43 | 2,690 3,000 |
| Sespe Creek near Wheeler Springs | 49.5 | 1948- | USGS | 2/10/62 | 10.6 ^h | 3,800 | 11/24/65 12/29/65 | 9.10 9.42 | 2,940 3,320 |
| Sespe Creek near Fillmore | 251 | 1911-13 1927- | USGS | 3/ 2/38 | - | 56,000 | 11/24/65 12/29/65 | 13.40 13.95 | 19,600 21,600 |
| Santa Paula Creek near Santa Paula | 40.0 | 1927- | USGS | 3/ 2/38 | 10.56 | 13,500 | 11/22/65 12/29/65 | 7.49 7.28 | 6,480 6,050 |
| Malibu Creek at Crater Camp near Calabasas | 105 | 1931- | USGS | 3/15/52 | 16.8 | 13,600 | 11/22/65 12/29/65 | - - | 4,180 20,600** |
| Ballona Creek near Culver City | 89.5 ^r | 1928- | USGS | 3/ 2/38 | 15.4 | 19,000 | 11/22/65 12/29/65 | - - | 17,000 10,300 |
| Los Angeles River at Sepulveda Dam | 158 | 1929- | USGS | 3/ 2/38 | - | 12,000 ^e | 11/17/65 12/29/65 | 9.90 10.90 | 11,250 ^c 13,000 ^c ** |
| Pacoima Creek near San Fernando | 28.5 | 1916- | USGS | 3/ 3/38 2/ -/14 | - | 2,440 ^c 5,400 | 11/23/65 12/29/65 | - - | 664 ^c 152 ^c |
| Tujunga Creek near Sunland | 106 | 1916- | USGS | 3/ 2/38 | - | 50,000 ^e | 11/22/65 12/29/65 | - - | 6,000 ^c 3,600 ^c |
| Tujunga Creek below Hansen Dam | 150 | 1933-38 1941- | USGS | 3/ 2/38 | - | 54,000 ^e | 11/23/65 12/31/65 | 3.93 2.18 | 3,240 ^c 840 ^c |
| Los Angeles River at Los Angeles | 514 | 1929- | USGS | 3/ 2/38 | - | 67,000 ^c | 11/17/65 | - | 24,400 ^c 32,000 ^c |
| Arroyo Seco near Pasadena | 16.0 | 1910- | USGS | 3/ 2/38 | 9.42 | 8,620 | 11/22/65 12/29/65 | 6.33 6.06 | 3,160 3,050 |
| Los Angeles River near Downey | 599 | 1928- | USGS | 3/ 2/38 | - | 79,700 | 11/22/65 12/29/65 | - - | 22,600 ^c 39,200 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|-------------------|----------------------|----------------------|----------------|---|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| South Coastal Area (Continued) | | | | | | | | | |
| Rio Hondo above Whittier Narrows Dam | 91.2 | 1956- | USGS | 1/ 6/59 | 4.90 ^h | 8,150 ^c | 11/22/65 12/29/65 | 4.03 4.38 | 5,860 ^c 6,640 ^c |
| Rio Hondo near Montebello | 116 | 1928- | USGS | 3/ 2/38 | 16.69 | 28,000 ^c | 11/22/65 12/29/65 | - - | 7,500 ^c 7,100 ^c |
| Rio Hondo near Downey | 143 | 1928- | USGS | 3/ 2/38 | 12.0 | 24,400 ^c | 11/24/65 12/29/65 | - - | 11,500 ^c 19,800 ^c |
| Los Angeles River at Long Beach | 832 | 1928- | USGS | 3/ 2/38 | - | 99,000 ^c | 11/22/65 12/29/65 | - - | 44,700 ^c 61,000 ^c |
| East Fork San Gabriel River near Camp Bonita | 84.6 ^r | 1932- | USGS | 3/ 2/38 | - | 46,000 | 11/22/65 12/29/65 | - - | 8,200 9,760 |
| West Fork San Gabriel River at Camp Rincon | 104 ^r | 1927- | USGS | 3/ 2/38 | - | 34,000 | 11/22/65 12/29/65 | - - | 9,030 12,800 |
| San Gabriel River near Azusa | 214 ^r | 1895- | USGS | 3/ 2/38 | - | 65,700 ^c | 11/23/65 12/29/65 | 11.78 8.20 | 9,360 ^c 3,020 ^c |
| San Gabriel River below Santa Fe Dam near Baldwin Park | 236 ^r | 1942- | USGS | 1/23/43 | - | 8,000 ^c | 11/23/65 12/31/65 | 17.14 12.35 | 11,100 ^{c**} 1,430 ^c |
| San Gabriel River above Whittier Narrows Dam | 353 | 1955-57 1963- | USGS | 1/26/56 | 8.16 ^h | 12,000 ^c | 11/24/65 12/29/65 | | 11,000 ^c 11,200 ^c |
| San Jose Creek near El Monte | 87.8 | 1965- | USGS | - | - | - | 11/22/65 12/29/65 | - - | 3,080 5,200** |
| San Gabriel River at Pico | 448 ^r | 1928- | USGS | 3/ 2/38 | - | 22,700 ^c | 11/22/65 12/29/65 | - - | 352 ^c 700 ^c |
| San Gabriel River at Spring Street near Los Alamitos | 472 ^r | 1927-51 1952- | USGS | 3/ 2/38 | - | 27,000 ^{cb} | 11/23/65 12/29/65 | - - | 1,220 ^c 1,740 ^c |
| Brea Creek below Brea Dam, near Fullerton | 21.5 ^r | 1942- | USGS | 2/29/44 | 5.10 | 655 ^c | 11/22/65 12/29/65 | 5.05 4.82 | 327 ^c 400 ^c |
| Coyote Creek at Los Alamitos | - | 1963- | USGS | 11/15/63 | - | - | 11/22/65 12/29/65 | - - | 5,000 3,740 |
| Santa Ana River near Mentone | 209 ^r | 1896- | USGS | 3/ 2/38 | 14.3 | 52,300 | 11/22/65 12/29/65 | 14.4 | 8,000 ^e - |
| Mill Creek near Yucaipa | 38.1 | 1919-38 1947- | USGS | 3/ 2/38 | - | 18,100 | 11/22/65 12/29/65 | 14.35 17.70 | 10,000 - |
| Plunge Creek near East Highlands | 17.1 | 1919- | USGS | 3/ 2/38 | - | 5,340 | 11/22/65 12/29/65 | 6.07 2.53 | 4,200 1,090 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------|---------------------|----------------------|---------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| <u>South Coastal Area (Continued)</u> | | | | | | | | | |
| City Creek near Highland | 19.5 | 1919- | USGS | 3/ 2/38 | - | 6,900 | 11/22/65 12/29/65 | 5.86 5.59 | 1,310 1,120 |
| Santa Ana River at Waterman Ave. at San Bernardino | 332 ^r | 1954- | USGS | 3/ 2/38 | - | 75,700 | 11/22/65 12/29/65 | 7.94 3.40 | 10,400 3,100 |
| San Timoteo Creek near Redlands | 119 | 1926- | USGS | 3/ 2/38 | - | 7,460 | 11/22/65 12/29/65 | 4.22 2.87 | 1,360 500 |
| Warm Creek Floodway near San Bernardino | 69.5 | 1961- | USGS | 9/18/63 | 2.75 | 1,440 | 11/23/65 12/29/65 | 3.10 2.86 | 2,310** 1,710 |
| Warm Creek near San Bernardino | 84.5 | 1964- | USGS | 3/22/64 | 5.82 | 732 | 11/22/65 12/29/65 | 6.33 5.22 | 606 295 |
| Lytle Creek near Fontana | 46.3 | 1918- | USGS | 3/ 2/38 | - | 25,200 | 11/22/65 12/29/65 | 10.78 - | 9,000 - |
| Cajon Creek near Keenbrook | 40.6 | 1919- | USGS | 3/ 2/38 | 19.3 | 14,500 | 11/22/65 12/29/65 | 9.40 16.00 | 3,160 12,700 |
| Lone Pine Creek near Keenbrook | 15.1 | 1919-38 1949- | USGS | 3/ 2/38 | - | 6,180 | 11/22/65 12/29/65 | 6.69 9.07 | 980 1,900 ^k |
| Lytle Creek at Colton | 180 | 1957- | USGS | 3/ 2/38 | - | 21,500 | 11/22/65 12/29/65 | 6.16 12.40 | 5,300 14,800 |
| Santa Ana River at Colton | 722 | 1961- | USGS | 9/18/63 | 10.03 | 1,950 | 11/22/65 12/29/65 | - 10.37 | 25,000** 17,500 |
| Santa Ana River at Riverside Narrows near Arlington | 851 ^r | 1927- | USGS | 3/ 2/38 | - | 100,000 | 11/23/65 12/29/65 | 13.52 11.2 | 20,000 ^e 15,000 ^e |
| San Jacinto River near San Jacinto | 141 | 1920- | USGS | 2/16/27 | - | 45,000 | 11/22/65 12/29/65 | 10.4 6.05 | 6,300 890 |
| Bautista Creek near Hemet | 39.4 | 1947- | USGS | 4/ 3/58 | 4.65 | 1,440 | 11/23/65 | 4.80 | 1,640** |
| San Jacinto River near Elsinore | 728 ^r | 1916- | USGS | 2/17/27 | 11.8 | 16,000 | 11/22/65 12/29/65 | - 2.26 | 0 ^c 0.8 ^c |
| Temescal Creek near Corona | 164 | 1927- | USGS | 3/ 2/38 | - | 14,900 ^c | 11/22/65 12/29/65 | 8.07 8.66 | - - |
| San Antonio Creek near Claremont | 16.5 | 1917- | USGS | 3/ 2/38 | - | 21,400 | 11/22/65 12/29/65 | 6.08 6.46 | 2,300 2,590 |
| Cucamonga Creek near Upland | 10.1 | 1927- | USGS | 3/ 2/38 | - | 10,300 | 11/22/65 12/29/65 | 6.22 5.28 | 1,900 1,130 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|-------------------|---------------------|-------------------------|---------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| South Coastal Area (Continued) | | | | | | | | | |
| Santa Ana River below Prado Dam | 1,486 | 1930- | USGS | 3/ 2/38 | - | 100,000 | 11/28-30/65 12/30/65 | 4.08 4.16 | 1,040 ^c 1,240 ^c |
| Carbon Creek below Carbon Canyon Dam | 19.4 | 1961- | USGS | 2/13/62 | 0.89 | 81 ^c | 12/ 1/65 1/ 3/65 | 1.17 1.14 | 220 ^{c**} 195 ^c |
| Santiago Creek at Modjeska | 12.5 | 1961- | USGS | 2/11/62 | 3.53 | 302 | 11/22/65 12/29/65 | 6.60 5.80 | 1,500** 1,120 |
| Santiago Creek at Santa Ana | 95.0 | 1928- | USGS | 3/ 2/38 | 8.36 | 4,400 ^c | 11/22/65 12/29/65 | 3.73 4.50 | 255 ^c 590 ^c |
| Santa Ana River at Santa Ana | 1,685 | 1923- | USGS | 2/ 3/38 | - | 46,300 ^c | 11/24/65 12/30/65 | 5.77 4.00 | 3,300 ^s 1,400 ^s |
| San Diego Creek near Irvine | 40.3 | 1949- | USGS | 1/18/52 | 7.70 | 4,040 | 11/22/65 12/29/65 | 4.88 6.15 | 1,440 2,550 |
| San Juan Creek near San Juan Capistrano | 106 | 1928- | USGS | 3/ 2/38 | - | 13,000 | 11/22/65 12/29/65 | 6.60 4.20 | 4,080 1,950 |
| San Mateo Creek near San Clemente | 80.8 | 1952- | USGS | 4/ 1/58 | 9.10 | 4,800 | 11/22/65 12/29/65 | 10.14 9.24 | 5,070** 3,460 |
| Cristianitos Creek near San Clemente | 29.0 | 1950- | USGS | 1/16/52 | 8.86 | 1,800 | 11/22/65 12/29/65 | 7.50 6.20 | 1,060 450 |
| San Mateo Creek at San Onofre | 132 | 1946- | USGS | 4/ 1/58 | 5.62 | 4,650 | 11/22/65 12/29/65 | 8.13 6.22 | 5,500 ^{s**} 3,840 ^s |
| San Onofre Creek near San Onofre | 34.6 | 1950- | USGS | 4/ 1/58 | 5.90 | 2,680 | 11/22/65 12/29/65 | 5.55 4.20 | 1,310 790 |
| San Onofre Creek at San Onofre | 42.2 | 1946- | USGS | 4/ 1/58 | 6.90 | 2,600 | 11/22/65 12/29/65 | 7.83 9.14 | 1,500 2,410 ^s |
| Temecula Creek near Aguanga | 131 | 1957- | USGS | 4/ 3/58 | 6.57 | 3,540 | 11/22/65 12/29/65 | 6.37 2.80 | 3,200 295 |
| Murrieta Creek at Temecula | 222 | 1924- | USGS | 1/23/43 | 13.82 | 17,500 | 11/23/65 12/29/65 | 6.87 7.84 | 3,700 5,020 |
| Santa Margarita River near Temecula | 588 | 1923- | USGS | 2/16/27 | 14.6 | 25,000 | 11/23/65 12/29/65 | 7.61 8.00 | 4,200 ^c 5,520 ^c |
| Santa Margarita River near Fallbrook | 644 | 1924- | USGS | 2/16/27 | 15.6 ^b | 33,100 | 11/23/65 12/30/65 | 8.87 8.15 | 4,750 ^c 3,710 ^c |
| De Luz Creek near Fallbrook | 47.5 | 1957- | USGS | 4/ 1/58 | 9.95 ^h | 2,800 | 11/22/65 12/29/65 | 9.10 7.94 | 1,930 1,030 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|-------------------------|--------------------------------|----------------------|----------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| South Coastal Area (Continued) | | | | | | | | | |
| Santa Margarita River at Ysidora | 739 | 1923- | USGS | 2/16/27 | 18.00 ^b | 33,600 | 11/23/65 12/30/65 | 12.25 11.98 | 8,400 ^c 7,320 ^c |
| Agua Caliente Creek near Warner Springs | 19.0 | 1961- | USGS | 3/ 6/62 | 3.76 | 88 | 11/23/65 | 6.10 | 740** |
| W. Fork San Luis Rey River near Warner Springs | 25.5 | 1913-15 1956- | USGS | 3/16/58 | 10.77 | 2,060 | 11/22/65 12/29/65 | 10.25 7.13 | 1,650 355 |
| Pauma Creek near Pauma Valley | 11.0 | 1965- | USGS | - | - | - | 11/23/65 12/29/65 | 6.12 3.62 | 620** 74 |
| San Luis Rey River at Monserate Narrows, near Pala | 373 | 1935-41 1946- | USGS | 2/ 7/37 4/ 3/58 | 8.7 ^b - | - 1,990 ^c | 11/22/65 12/30/65 | 4.80 2.41 | 2,850 ^{c**} 117 ^c |
| San Luis Rey River near Bonsall | 512 | 1916-18 1929- | USGS | 3/ 2/38 2/1891 | 12.60 ^b - | 18,100 ^c 128,000 | 11/23/65 12/30/65 | 9.63 5.11 | 2,560 ^c 86 ^c |
| San Luis Rey River at Oceanside | 577 | *1912- | USGS | 1/27/16 | - | 95,600 | 11/23/65 12/31/65 | 13.31 10.02 | 624 ^c 6.9 ^c |
| Santa Ysabel Creek near Ramona | 112 | 1912-23 1943- | USGS | 1/27/16 | 14.0 ^b | 28,400 | 11/23/65 12/30/65 | 11.5 3.87 | 4,570 ^c 252 ^c |
| Santa Ysabel Creek near San Pasqual | 128 | *1905- | USGS | 3/24/06 | 6.3 ^{b,m} | 8,000 | 11/25/65 12/30/65 | 10.98 3.34 | 5,260 ^c 284 ^c |
| Guejito Creek near San Pasqual | 22.5 | 1946- | USGS | 4/ 3/58 | 5.83 | 1,660 | 11/23/65 12/30/65 | 7.45 2.95 | 2,550** 111 |
| Santa Maria Creek near Ramona | 57.6 | 1912-20 1946- | USGS | 1/27/16 | 14.1 ^h | 7,140 | 11/23/65 12/30/65 | 4.56 2.54 | 1,170 65 |
| San Dieguito River near San Pasqual | 249 | 1956- | USGS | 4/ 3/58 | 7.35 | 3,600 ^c | 11/23/65 12/30/65 | 7.40 5.23 | 4,160 ^{c**} 987 |
| Los Penasquitos Creek near Poway | 42.1 | 1965- | USGS | - | - | - | 11/23/65 12/29/65 | 7.40 - | 1,610 1,780** |
| San Diego River near Santee | 377 | 1912- | USGS | 1/27/16 | 25.1 ^b | 70,200 | 11/23/65 12/29/65 | 7.55 6.70 | 1,300 ^c 1,280 ^c |
| Sweetwater River near Descanso | 45.5 | 1905-27 1956- | USGS | 2/16/27 | 13.2 ^{b,h} | 11,200 | 11/23/65 12/30/65 | 6.53 5.70 | 1,230 700 |
| Jamul Creek near Jamul | 70.3 | 1940- | USGS | 12/ 1/47 | 6.42 | 4,000 | 11/23/65 12/30/65 | 3.60 2.62 | 680 51 |
| Cottonwood Creek above Tecate Cr. near Dulzura | 316 | 1936- | USGS | 2/ 7/37 | 9.65 | 4,340 ^c | 11/23/65 12/29/65 | 3.90 2.38 | 238 ^c 42 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|---------------------|--------------------|----------------------|--------------|--------------------------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| South Coastal Area (Continued) | | | | | | | | | |
| Campo Creek near Campo | 84 | 1936- | USGS | 2/ 6/37 | 4.80 | 880 | 11/22/65 12/29/65 | 1.30 1.27 | 1.0 ^c 0.8 ^c |
| Tia Juana River near Dulzura | 478 | 1936- | USGS | 2/ 7/37 | 8.50 | 4,700 ^c | 11/23/65 12/29/65 | 3.67 2.52 | 250 ^c 36 ^c |
| Tia Juana River near Nestor | 1,668 | 1914-15 1936- | USGS | 2/ 7/37 | 8.20 ^b | 17,700 | 11/23/65 12/16/65 | 5.75 4.98 | 267 ^c 145 ^c |
| Central Valley Area | | | | | | | | | |
| Sacramento River at Delta | 425 ^r | 1944- | USGS USBR | 12/22/64 | 20.10 | 38,800 | 11/18/65 | 11.48 | 11,600 |
| N. F. Pit River near Alturas | 203 ^r | 1929-32 1957- | USGS | 10/14/62 | 11.07 | 2,530 | 1/ 9/66 | 2.33 | 258 |
| Pit River near Bieber | 2,475 | *1904- | USGS | 3/19/07 | 16.7 | 33,800 | 3/11/66 | 6.43 | 2,440 ^c |
| Pit River below Pit No. 4 Dam | 4,647 ^r | 1922- | USGS | 12/12/37 | 17.90 | 30,200 | 3/16/66 | 9.42 | 4,750 ^c |
| Pit River near Montgomery Creek | 4,945 ^r | 1944- | USGS | 12/23/55 | 14.12 ^b | 37,100 | | | |
| Squaw Creek above Shasta Lake | 64.0 ^r | 1944- | USGS USBR | 12/21/55 | 21.90 | 17,800 | 1/ 6/66 | 13.58 | 3,820 |
| McCloud River above Shasta Lake | 604 ^r | 1945- | USGS USBR | 12/22/55 | 28.20 | 45,200 | 3/10/66 | 15.03 | 4,960 |
| Sacramento River at Keswick | 6,486 ^r | 1938- | USGS DWR | 2/23/40 | 47.2 ^b | 186,000 | 1/17/66 | 16.95 | 17,300 ^c |
| Clear Creek at French Gulch | 115 | 1950- | USGS | 12/22/64 | 13.70 | 7,600 | 11/15/65 | 8.23 | 2,390 |
| Clear Creek near Igo | 228 | 1940- | USGS | 12/21/55 | 13.75 | 24,500 | 1/ 4/66 | 5.76 | 2,290 ^c |
| Cow Creek near Millville | 425 | 1949- | USGS | 12/27/51 | 21.55 | 45,200 | 1/ 4/65 | 18.71 | 31,400 |
| Cottonwood Creek near Cottonwood | 922 | 1940- | USGS | 12/22/64 | 19.64 | 56,500 | 1/ 5/66 | 13.88 | 14,700 |
| Battle Creek below Coleman Fish Hatchery near Cottonwood | 358 | 1961- | USGS | 12/11/37 | 15.8 ^{h,b} | 35,000 | 2/ 6/66 | 5.97 | 1,590 |
| Paynes Creek near Red Bluff | 92.7 | 1949- | USGS | 12/ 1/61 | 11.33 | 10,600 | 2/ 6/66 | 5.56 | 1,170 |
| Sacramento River near Red Bluff | 9,300 | 1892- | USGS | 2/28/40 | 38.9 | 291,000 | 1/ 5/65 | 17.54 | 79,300 ^c |
| Red Bank Creek near Red Bluff | 93.5 | 1959- | DWR USBR | 1/ 5/65 | 10.21 | 12,200 | 11/15/65 | 8.68 | 6,869 ^e |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|-------------------|--|--------------------|--------------|-----------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| Antelope Creek near Red Bluff | 123 | 1940- | USGS USCE | 2/22/56 | 12.43 | 11,500 | 1/ 4/66 | 8.48 | 2,540 |
| Elder Creek near Paskenta | 92.9 ^r | 1948- | USGS | 2/24/58 | 13.90 | 11,700 | 11/14/65 | 9.53 | 4,960 |
| Elder Creek at Gerber | 136 | 1949- | USGS USBR | 1/ 5/65 | 14.90 | 14,100 | 1/ 4/66 | 10.97 | 6,220 |
| Mill Creek near Los Molinos | 131 | *1909- | USGS | 12/11/37 | 23.4 ^h | 23,000 | 1/ 4/66 | 6.62 | 2,760 |
| Thomes Creek at Paskenta | 194 | 1920- | USGS DWR | 12/22/64 | 15.32 | 37,800 | 1/ 4/66 | 7.89 | 4,180 |
| Deer Creek near Vina | 208 | *1911- | USGS DWR | 12/10/37 | 19.2 ^h | 23,800 | 1/ 4/66 | 7.58 | 3,960 |
| Sacramento River at Vina Bridge | - | 1945- | DWR USBR | 12/23/64 | 90.92 | 162,000 ^{c,e} | 1/ 5/66 | 84.08 | 95,710 ^{c,e} |
| Sacramento River at Hamilton City | - | 1945- | DWR USBR | 12/11/37 | 150.7 | 350,000 | 1/ 5/66 | 142.61 | 87,070 ^{c,e} |
| Big Chico Creek near Chico | 72.5 | 1930- | USGS | 1/ 5/65 | 15.36 | 9,580 | 1/ 4/66 | 8.25 | 2,850 |
| Stony Creek near Fruto | 599 | 1901-12 1960- | USGS | 12/23/64 | 15.49 | 40,200 ^c | 1/ 4/66 | 11.50 | 12,800 ^c |
| Stony Creek near Hamilton City | 777 | 1940- | USGS | 2/25/58 | 18.31 | 39,900 ^c | 2/ 5/66 | 9.81 | 5,740 ^c |
| Sacramento River at Ord Ferry | - | *1921- | DWR | 2/28/40 | 121.7 | 370,000 | 1/ 6/66 | 112.83 | 83,210 ^{c,e} |
| Sacramento River at Butte City | - | *1921- | USGS DWR | 2/ 7/42 | 96.87 | 170,000 | 1/ 6/66 | 89.33 | 72,700 ^c |
| Moulton Weir Spill to Butte Basin | - | *1935- | DWR | 2/20/58 2/26/58 | 83.66 83.66 | 36,000 ^d 36,000 ^d | 1/ 6/66 | 78.02 | 2,045 ^d |
| Colusa Weir Spill to Butte Basin | - | *1935- | DWR | 2/ 8/42 | 70.40 | 86,000 ^d | 1/ 6/66 | 65.67 | 29,850 ^d |
| Sacramento River at Colusa | - | 1940- | USGS DWR | 2/ 8/42 | 69.20 | 49,000 ^c | 1/ 6/66 | 63.97 | 40,100 ^c |
| Colusa Basin Drain at Highway 20 | - | 1924- | DWR | 2/21/58 | 51.93 | 25,400 ^e | 2/ 4/66 | 74.15 | 2,159 |
| Butte Creek near Chico | 147 | 1930- | USGS | 12/22/64 | 14.12 | 21,200 | 1/ 4/66 | 5.28 | 3,150 |
| Butte Slough to Sutter Bypass at Mawson Bridge | - | *1934- | DWR | 3/ 1/40 | 68.9 | 210,000 | 1/ 7/66 | 54.27 | 11,480 ^e |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|-----------------------------|--------------------------|--------------------|----------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| Sutter Bypass at Long Bridge | - | 1914- | DWR | 3/ 1/40 | 57.7 | 210,000 | 1/ 7/66 | 54.27 | - |
| Tisdale Weir Spill to Sutter Bypass | - | 1940- | DWR | 3/ 1/40 | 53.35 | 25,700 ^d | 1/ 7/66 2/ 5/66 | 48.26 - | - 11,180 ^d |
| Sacramento River below Wilkins Slough | - | 1938- | USGS | 2/27/58 | 51.41 | 28,900 ^c | 1/ 7/66 | 47.84 | 27,100 ^c |
| Sacramento River at Knights Landing | - | 1940- | USGS DWR | 12/ 8/42 12/ 3/60 | 41.83 ^k 30.31 | - 30,000 ^c | 1/ 6/66 1/ 7/66 | 35.40 33.92 | 24,500 ^c 27,500 ^c |
| Big Grizzly Creek near Portola | 45.5 | *1925- | USGS | 2/ 1/63 | 8.03 | 4,080 | 5/10/66 | 4.77 | 648 |
| Middle Fork Feather River near Clito | 686 | 1925- | USGS | 2/ 1/63 | 16.19 | 14,500 | 3/13/66 | 9.25 | 2,330 |
| Middle Fork Feather River near Merrimac | 1,062 ^r | 1951- | USGS | 12/22/64 | 26.5 ^h | 86,200 | 3/13/66 | 10.08 | 4,760 |
| South Fork Feather River at Enterprise | 132 | 1911- | USGS | 12/22/55 | 21.60 | 19,200 | 1/ 4/66 | 7.06 | 1,200 |
| North Fork Feather River near Prattville | 493 | *1905- | USGS | 3/19/07 | 16.2 ^b | 10,000 | Regulated | No Peak | |
| Butte Creek below Almanor-Butte Creek Tunnel, near Prattville | 68.8 | 1936- | USGS | 12/23/64 | 5.87 | 3,830 | 6/12/66 | 3.86 | 1,670 |
| Indian Creek near Crescent Mills | 739 | *1906- | USGS | 3/19/07 | 20.2 ^{b,m} | 25,000 | 3/14/66 | 6.25 | 1,820 |
| Spanish Creek above Blackhawk Creek, at Keddle | 184 | 1933- | USGS | 12/22/64 | 13.53 | 15,400 | 3/12/66 | 4.73 | 1,310 |
| North Fork Feather River at Pulga | 1,953 | *1910- | USGS | 12/22/64 | 35.80 | 73,000 ^{c,g} | 11/17/65 | 10.56 | 3,240 ^c |
| West Branch Feather River near Paradise | 113 | 1957- | USGS DWR | 12/22/64 | 26.2 | 25,500 | 11/17/65 | 9.62 | 3,040 |
| Feather River at Oroville | 3,626 ^r | 1901- | USGS DWR | 3/19/07 | 39.3 ^{b,m} | 230,000 | 1/ 5/66 | 6.50 | 15,300 ^c |
| Feather River near Gridley | - | *1929- | DWR | 12/23/55 | 102.25 | - | 1/ 5/66 | 31.60 | 14,600 ^c |
| South Honcut Creek near Bangor | 30.6 ^r | 1950- | USGS | 12/26/64 | 19.25 | 17,000 | 1/ 4/66 | 6.98 | 1,280 |
| Feather River at Yuba City | - | 1944- | DWR | 12/24/55 | 82.42 | - | 1/ 6/66 | 49.14 | - |
| Middle Yuba River above Oregon Creek | 162 | 1940- | USGS | 1/31/63 | 18.55 | 31,600 ^c | 1/ 5/66 | 4.97 | 884 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------------|---------------------------|--------------------|--------------|----------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| Oregon Creek near North San Juan | 34.4 | 1911- | USGS | 12/22/64 | 12.88 | 10,300 | 1/ 5/66 | 5.31 | 438 |
| North Yuba River below Goodyears Bar | 250 | *1930- | USGS | 2/ 1/63 | 23.8 ^h | 40,000 | 5/10/66 | 8.06 | 3,490 |
| North Yuba River below Bullards Bar Dam | 487 | 1940- | USGS | 12/22/64 | 40.45 | 91,600 ^c | 4/ 8/66 | 9.81 | 4,420 ^c |
| South Yuba River near Cisco | 51.8 | 1942- | USGS | 1/31/63 | 20.6 ^h | 18,400 | 5/10/66 | 6.08 | 1,260 |
| South Yuba River at Jones Bar, near Grass Valley | 310 | 1940-48 1959- | USGS | 12/22/64 | 25.0 | 53,600 ^c | 1/ 5/66 | 7.63 | 1,360 ^c |
| Yuba River at Englebright Dam | 1,109 ^r | 1941- | USGS PG&E | 12/22/64 | 546.0 ⁿ | 171,700 ^{c,f} | 4/13/66 | 529.52 | 6,685 ^{c,f} |
| Deer Creek near Smartville | 84.6 | 1935- | USGS | 10/13/62 | 13.77 | 11,600 ^c | 12/28/65 | 7.57 | 2,620 ^c |
| Yuba River near Marysville | 1,340 | *1940- | USGS | 12/23/64 | 90.15 | 180,000 ^c | 1/ 5/66 | 64.17 | 7,300 ^c |
| Bear River near Auburn | 140 | 1940- | USGS | 12/22/55 | 16.56 ^b | 19,700 | 1/ 6/66 | 7.25 | 2,060 ^c |
| Bear River near Wheatland | 292 | 1928- | USGS | 12/22/55 | 19.30 ^b | 33,000 | 3/11/66 | *3.75 | 870 ^c |
| Feather River at Nicolaus | 5,923 ^r | 1943- | USGS DWR | 12/23/55 | 51.60 | 357,000 ^c | 1/ 6/66 | 32.76 | 22,900 ^c |
| Fremont Weir (West End) Spill to Yolo Bypass | - | *1935- | DWR | 12/23/55 | 39.72 | 293,800 ^d | No Flow Over Weir | | |
| Sacramento River at Verona | - | 1929- | USGS DWR | 3/ 1/40 | 41.20 | 79,200 ^c | 1/10/66 | 30.90 | 50,800 ^c |
| Sacramento Weir Spill to Yolo Bypass, near Sacramento | - | *1939- | USGS DWR | 3/26/28 12/23/55 | 31.83 33.01 | 118,000 ^d - | No Flow Over Weir | | |
| North Fork American River at North Fork Dam | 343 | 1941- | USGS | 12/23/64 | 11.87 | 65,400 ^c | 4/ 2/66 | 2.68 | 2,270 ^c |
| Rubicon River near Foresthill | 311 | 1958- | USGS | 12/23/64 | 74 ^{p,h} | - | 11/18/65 | 9.26 | 1,580 |
| Middle Fork American River near Foresthill | 534 | 1958- | USGS | 12/23/64 | 69 ^{p,h} | - | 11/18/65 | 8.11 | 1,980 |
| Middle Fork American River near Auburn | 613 | 1911- | USGS | 12/23/64 | 60.4 ^h | 250,000 ^p | 11/18/65 | 9.23 | 2,240 |
| South Fork American River near Kyburz | 193 | 1907, 1922- | USGS PG&E | 12/23/64 | 10.92 | 17,400 ^{c,g} | 5/10/66 | 5.15 | 1,520 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|--------------------|-----------------------|--------------------|--------------|---------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| South Fork American River near Camino | 501 | 1922- | USGS PG&E | 12/23/55 | 32.6 ^h | 49,800 ^c | 5/13/66 | 8.60 | 3,050 ^c |
| South Fork American River near Lotus | 673 | 1951- | USGS | 12/23/55 | 21.37 | 71,800 ^c | 12/29/65 | 7.68 | 3,080 ^c |
| American River at Fair Oaks | 1,888 ^r | 1904- | USGS | 11/21/50 | 31.85 ^b | 180,000 | 3/18/66 | 3.77 | 4,110 ^c |
| Sacramento River at Sacramento | 23,530 | *1879- | USGS DWR USWB | 11/21/50 | 30.14 ^b | 104,000 ^c | 1/10/66 | 16.81 | 53,000 ^c |
| Sacramento River at Walnut Grove | - | 1929- | DWR | 11/21/50 | 13.0 ^b | - | 1/ 9/66 | 6.50 | - |
| Adobe Creek near Kelseyville | 6.39 | 1954- | USGS | 12/22/64 | 9.11 | 1,500 | 1/ 4/66 | 8.31 | 1,140 |
| Kelsey Creek near Kelseyville | 37.2 | 1946- | USGS | 12/21/55 | 12.80 | 8,800 | 1/ 4/66 | 10.84 | 4,490 |
| Cache Creek near Lower Lake | 528 | 1944- | USGS | 2/24/58 | 9.40 | 8,000 ^c | 3/17/66 | 8.01 | 4,920 ^c |
| North Fork Cache Creek near Lower Lake | 198 | 1930- | USGS | 12/11/37 | 13.98 ^h | 20,300 | 1/ 4/66 | 10.53 | 12,900 |
| Cache Creek above Rumsey | - | 1959- | DWR | 1/ 5/65 | 21.4 | 59,000 ^c | 1/ 4/66 | 15.66 | 23,600 ^c |
| Cache Creek near Capay | 1,042 ^r | 1942- | USGS | 2/24/58 | 20.90 | 51,600 ^c | 1/ 5/66 | 14.57 | 17,700 ^c |
| Cache Creek at Yolo | 1,138 ^r | 1903- | USGS | 2/25/58 | 33.11 ^b | 41,400 ^{c,g} | 1/ 5/66 | 25.44 | 18,400 ^c |
| Yolo Bypass near Woodland | - | 1939- | USGS DWR | 2/ 8/42 | 32.00 | 272,000 | | No Flow | |
| Dry Creek near Middletown | 8.41 | 1959- | USGS | 2/ 8/60 | 9.90 | 3,470 | 1/ 4/66 | 8.63 | 2,040 |
| Putah Creek near Winters | 5.74 ^r | 1930- | USGS DWR | 2/27/40 | 30.5 | 81,000 | 7/11/65 | 8.13 | 759 ^c |
| Yolo Bypass near Lisbon | - | 1914- | DWR | 12/25/64 | 24.68 | 350,000 ^e | 1/ 9/66 | 11.7 | |
| Sacramento River at Rio Vista | - | 1906- | USCE DWR | 12/25/55 | 10.2 ^b | - | 2/ 4/66 | 7.93 | - |
| North Fork Cosumnes River near El Dorado | 205 | 1911-41 1948- | USGS | 12/23/55 | 14.8 | 15,800 ^c | 12/29/65 | 5.07 | 765 ^c |
| Middle Fork Cosumnes River near Somerset | 107 | 1957- | USGS | 2/ 1/63 | 16.20 | 11,800 | 4/ 1/65 | 6.22 | 412 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|---------------------|---------------------|---------------------|-------------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| South Fork Cosumnes River near River Pines | 64.3 | 1957- | USGS | 2/ 1/63 | 10.90 | 5,540 | 12/29/65 | 3.20 | 464 |
| Cosumnes River at Michigan Bar | 536 ^r | 1907- | USGS DWR | 12/23/55 | 14.59 | 42,000 | 12/29/65 | 5.82 | 2,880 |
| Cosumnes River at McConnell | 724 | 1941- | USGS USBR DWR | 12/23/55 | 46.26 | 54,000 | 12/31/65 2/ 6/66 | 37.14 37.13 | 2,910 3,220 |
| Dry Creek near Galt | 329 | 1926-33 1944- | USGS USBR DWR | 4/ 3/58 | 15.28 | 24,000 | 1/30/66 | 10.86 | 1,510 |
| Cole Creek near Salt Springs Dam | 20.4 | 1927-42 1943- | USGS | 12/23/64 | 10.21 | 6,140 | 10/18/65 | 3.36 | 301 |
| South Fork Mokelumne River near West Point | 75.1 ^r | 1933- | USGS | 12/23/55 | 14.8 ^{b,h} | 6,920 | 11/24/65 | 4.54 | 372 |
| Mokelumne River near Mokelumne Hill | 544 ^r | *1901- | USGS | 12/ 3/50 | 18.5 | 33,700 ^c | 11/18/65 | 4.65 | 1,620 ^c |
| Mokelumne River at Woodbridge | 661 ^r | 1924- | USGS DWR | 11/22/50 | 29.58 | 27,000 ^c | 11/12/66 | 16.16 | 2,510 ^c |
| Mokelumne River near Thornton (Benson's Ferry) | 2,045 | 1959- | DWR | 12/24/55 | 18.00 ^b | - | 2/ 7/66 | 6.09 | - |
| Bear Creek near Lockeford | 47.6 ^r | 1930- | USGS DWR | 4/ 3/58 | 15.13 | 2,930 | 1/30/66 | 9.50 | 680 |
| South Fork Calaveras River near San Andreas | 118 | 1950- | USGS | 12/23/55 | 10.29 | 17,600 | 12/29/65 | 5.47 | 2,300 |
| Calaveras River at Jenny Lind | 393 ^r | 1907- | USGS DWR | 1/31/11 | 21.0 ^m | 50,000 | 1/ 6/66 | 6.26 | 2,120 ^c |
| Cosgrove Creek at Valley Springs | 21.1 ^r | 1929- | USGS | 12/23/55 | 8.96 | 3,240 | 1/30/66 | 4.63 | 442 |
| Calaveras River at Bellota | - | 1958- | DWR | 4/ 2/58 | 19.3 | 1,570 ^c | 1/ 7/66 | 7.04 | 236 ^{c,e} |
| Mormon Slough at Bellota | - | 1948- | DWR | 4/ 2/58 | 20.65 | 15,400 ^c | 1/ 7/66 | 7.45 | 1,690 ^c |
| Calaveras River near Stockton | - | 1958- | DWR | 4/ 4/58 | 9.20 | 632 ^c | 1/ 7/66 | 6.25 | 195 ^{c,e} |
| Stockton Diverting Canal at Stockton | - | 1944- | DWR | 4/ 4/58 ^e | 17.18 ^e | 11,400 ^e | 1/ 7/66 | 8.92 ^e | 1,520 ^e |
| Duck Creek near Stockton | - | 1950- | DWR | 12/24/55 | 5.75 ^e | 400 | 2/ 6/66 | 3.61 | 145 ^e |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------------|---------------------|--------------------|--------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| South Fork Stanislaus River near Long Barn | 66.9 ^r | 1937- | USGS | 11/21/50 | 9.3 | 4,900 ^c | Regulated | | |
| Stanislaus River below Melones Powerhouse, near Sonora | 905 ^r | 1931- | USGS | 12/23/55 | 29.0 ^h | 62,800 ^c | 10/20/65 | 6.83 | 1,710 ^c |
| Stanislaus River at Orange Blossom Bridge | - | 1940- | DWR | 11/21/50 | 30.05 | 52,000 ^c | 2/ 6/66 | 6.04 | 2,620 ^c |
| Stanislaus River at Ripon | 1,075 | 1940- | USGS DWR | 12/24/55 | 63.25 | 62,500 ^c | 12/30/65 | 46.17 | 2,280 ^c |
| South Fork Tuolumne River near Oakland Recreation Camp | 87.0 ^r | 1923- | USGS | 12/23/55 | 10.9 ^h | 11,900 | 11/24/65 | 5.21 | 1,060 |
| Middle Fork Tuolumne River at Oakland Recreation Camp | 73.5 ^r | 1916- | USGS | 12/23/55 | 11.05 ^h | 4,920 | 11/23/65 | 5.13 | 629 |
| Tuolumne River at Modesto | 1,884 | *1878- | USGS DWR | 12/ 9/50 | 69.19 | 57,000 ^c | 12/31/65 | 45.77 | 3,910 ^c |
| Orestimba Creek near Newman | 134 ^r | 1932- | USGS DWR | 4/ 2/58 | 6.57 ^b | 10,200 | 12/30/65 | 5.51 | 124 |
| Merced River at Pohono Bridge, near Yosemite | 321 | 1916- | USGS | 12/23/55 | 21.52 ^h | 23,400 | 5/ 8/66 | 7.00 | 2,700 |
| South Fork Merced River near El Portal | 241 ^r | 1950- | USGS | 12/23/55 | 18.70 | 46,500 | 11/24/65 | 9.08 | 2,530 |
| Merced River at Bagby | 911 ^r | 1922- | USGS | 12/23/55 | 26.80 | 92,500 | 11/24/65 | 5.99 | 6,900 |
| Merced River near Stevinson | 1,273 ^r | 1940- | USGS USBR DWR | 12/ 5/50 | 73.79 | 13,600 ^c | 12/ 4/65 | 67.60 | 4,780 ^c |
| Chowchilla River at Buchanan Dam Site, near Raymond | 235 ^r | 1921-23 1930- | USGS DWR | 12/23/55 | 16.50 | 30,000 | 12/31/65 | 6.47 | 1,540 |
| Fresno River near Knowles | 133 ^r | 1911-13 1915- | USGS | 12/23/55 | 11.52 | 13,300 | 12/30/65 | 2.94 | 662 |
| Fresno River near Daulton | 258 ^r | 1941- | USGS USBR | 12/23/55 | 12.64 | 17,500 | 12/30/65 | 4.22 | 882 |
| Willow Creek at Mouth near Auberry | 130 | 1952- | USGS | 12/23/55 | 28.5 ^h | 15,700 ^c | 11/24/65 | 10.22 | 1,380 ^c |
| San Joaquin River below Kerchoff Powerhouse, near Prather | 1,480 | *1910- | USGS | 12/23/55 | 51.0 ^h | 92,200 ^c | 11/24/65 | 15.60 | 3,890 ^c |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|---|--------------------------|------------------|----------------------|----------------------------|--------------------|------------------------|--------------------|--------------|--------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Central Valley Area (Continued) | | | | | | | | | |
| San Joaquin River below Friant | 1,675 | *1907- | USGS | 12/11/37 | 23.80 ^b | 77,200 ^c | 7/13/66 | 2.60 | 161 ^c |
| San Joaquin River near Mendota | 4,310 | 1939- | USBR | 6/ 1/52 | - | 8,840 ^c | 8/ 1/66 | 4.72 | 468 ^c |
| Eastside Bypass near El Nido | - | 1964- | DWR | - | - | - | 1/ 2/66 | 11.55 | 1,560 |
| San Joaquin River at Fremont Ford Bridge | 7,619 ^r | 1937- | USGS USBR DWR | 4/ 6/58 | 74.91 | 5,910 ^c | 1/ 3/66 | 62.01 | 2,210 ^c |
| San Joaquin River near Newman | 9,524 ^r | 1912- | USGS DWR | 3/ 7/38 | 65.81 | 33,000 ^{c, B} | 1/ 2/66 | 58.94 | 6,080 ^c |
| San Joaquin River near Vernalis | 13,540 ^r | *1922- | USGS | 12/ 9/50 | 32.81 | 79,000 ^c | 12/ 7/65 | 21.23 | 9,730 ^c |
| Los Gatos Creek above Nunez Canyon near Coalinga | 95.8 ^r | 1949- | USGS | 4/ 3/58 2/ 9/62 | 6.51 7.25 | 2,560 2,560 | 11/23/65 | 4.95 | 380 |
| Kings River below North Fork | 1,342 | 1951- | USGS | 12/23/55 | 23.08 | 85,200 | 5/ 7/66 | 8.00 | 6,110 |
| Kaweah River at Three Rivers | 418 | 1958- | USGS DWR | 2/ 1/63 | 13.68 | 30,900 | 11/23/65 | 6.28 | 1,680 |
| Tule River near Springville | 225 | 1957- | USGS | 1/31/63 | 10.80 | 10,100 | 12/29/65 | 4.92 | 689 |
| Tule River below Success Dam | 393 | 1953- | USGS | 12/23/55 | 21.65 ^b | 27,000 | 10/14/65 | 5.86 | 447 ^c |
| Kern River at Kernville | 1,009 ^r | 1905-12 1953- | USGS | 12/23/55 | 16.8 ^h | 29,400 | 5/ 7/66 | 6.82 | 1,760 |
| Northern Lahontan Area | | | | | | | | | |
| Willow Creek near Susanville | 92.5 | 1950- | USGS | 2/ 1/63 | 5.59 | 816 | 3/10/66 | 3.38 | 120 |
| Susan River at Susanville | 192 | *1900- | USGS | 12/22/64 | 7.30 | 5,100 | 3/13/66 | 3.54 | 318 |
| Little Truckee River above Boca Reservoir near Boca | 146 | 1903-10 1939- | USGS | 2/ 1/53 | 9.00 | 13,300 | 5/10/66 | 2.23 | 606 |
| Truckee River at Farad | 932 | 1899- | USGS | 11/21/50 | 14.5 ^h | 17,500 | 12/ 6/65 | 4.74 | 2,000 ^c |
| East Fork Carson River below Markleeville Creek near Markleeville | 276 ^r | 1960- | USGS | 1/31/63 | 8.21 | 15,100 | 5/ 5/66 | 2.16 | 1,230 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--|--------------------------|------------------|----------------------|----------------------------|--------------------|---------------------|----------------------|----------------|--|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Northern Lahontan Area (Continued) | | | | | | | | | |
| West Fork Carson River at Woodfords | 65.6 | *1900- | USGS | 2/1/63 | 9.00 | 4,890 | 4/ 1/66 | 3.10 | 340 |
| West Walker River below Little Walker River near Coleville | 180 ^r | 1938- | USGS | 11/20/50 | 8.10 | 6,220 | 5/21/66 | 3.67 | 1,020 |
| East Walker River near Bridgeport | 359 ^r | 1921- | USGS | 6/19/63 | 4.64 | 1,390 | 5/25/66 | 1.78 | 285 ^c |
| Southern Lahontan Area | | | | | | | | | |
| Deep Creek near Hesperia | 137 | 1904-22 1929- | USGS | 3/ 2/38 | - | 46,600 ^c | 11/22/65 12/29/65 | 12.34 11.99 | 21,700 ^c 20,800 ^c |
| West Fork Mojave River near Hesperia | 74.8 | 1904-22 1929- | USGS | 3/ 2/38 | - | 26,100 | 11/22/65 12/29/65 | 11.20 14.20 | 8,420 21,200 |
| Mojave River at Lower Narrows near Victorville | 530 | 1899-06 1930- | USGS | 3/ 2/38 | 18.7 | 70,600 ^c | 11/23/65 12/30/65 | 10.57 12.66 | 17,100 ^c 32,800 ^c |
| Mojave River at Barstow | - | 1930- | USGS | 3/ 3/38 | 8.60 | 64,300 ^c | 11/23/65 12/30/65 | 4.56 5.97 | 4,600 ^c 8,970 ^c |
| Mojave River at Afton | - | 1929-32 1952- | USGS | 2/10/32 | 4.70 ^b | 3,550 | 11/23/65 12/31/65 | 3.43 7.92 | 7.9 4,150** |
| Big Rock Creek near Valyermo | 23.0 | 1923-65 | USGS | 3/ 2/38 | - | 8,300 | 11/22/65 12/29/65 | 7.10 6.70 | 1,270 2,100 |
| Little Rock Creek near Little Rock | 49.0 | *1930- | USGS | 3/ 2/38 | - | 17,000 ^e | 11/22/65 12/29/65 | * * | 2,900 5,730 |
| Pine Tree Creek near Mojave | 33.5 | 1958- | USGS | 8/23/61 | - | 30,000 ^e | 11/24/65 12/29/65 | 3.83 4.57 | * * |
| Colorado Desert Area | | | | | | | | | |
| Fortynine Palms Creek near Twentynine Palms | 8.55 | 1962- | USGS | 8/ 7/63 | 4.55 ^j | 1,240 | 11/22/65 12/22/65 | - 1.30 | 0 17 |
| Chariot Creek near Julian | 7.94 | 1961- | USGS | 4/ 2/64 | 5/8; | 5.5 | 11/22/65 12/29/65 | 8.02 8.20 | 44 220** |
| San Felipe Creek near Julian | 89.3 | 1958 | USGS | 9/13/61 10/18/64 | 1.85 1.85 | 16 16 | 11/23/65 12/30/65 | 1.52 2.15 | 3.0 45 |
| Coyote Creek near Borrego Springs | 144 | 1950- | USGS | 7/28/51 | 14.14 ^h | 3,800 | 11/22/65 12/30/65 | 12.50 9.43 | 573 30 |
| Borrego Palm Creek near Borrego Springs | 21.7 | 1950- | USGS | 8/23/55 | 9.9 ^h | 2,000 ^h | 11/23/65 12/30/65 | 2.43 2.50 | 7.9 9.1 |

Table 11 (Continued)

| Stream and Station | Drainage Area in Sq. Mi. | Period of Record | Source of Record (a) | Previous Maximum of Record | | | 1965-66 Water Year | | |
|--------------------------------------|--------------------------|------------------|----------------------|----------------------------|--------------------|----------------|----------------------|---------------|--------------------------|
| | | | | Date | Stage in ft. | Dischg. in cfs | Date | Stage in ft. | Dischg. in cfs |
| Colorado Desert Area (Continued) | | | | | | | | | |
| San Felipe Creek near Westmoreland | 1,693 | 1960- | USGS | 10/19/63 | 11.85 ^h | 7,230 | 11/24/65 12/16/65 | 5.36 9.00 | 19 3,600 |
| Snow Creek near White Water | 11.0 | 1921- | USGS | 12/ 27/61 | 3.87 | 285 | 11/22/65 12/29/65 | 22.1 - | 4,200** - |
| Tahquitz Creek near Palm Springs | 16.7 | 1947- | USGS | 8/31/54 | 8.45 | 1,570 | 11/22/65 12/29/65 | 10.34 3.92 | 2,900** 169 |
| Palm Canyon Creek near Palm Springs | 94.0 | 1930-42 1947- | USGS | 2/ 6/37 | 5.06 ^b | 3,850 | 11/22/65 12/16/65 | 5.61 3.28 | 1,520 190 |
| Andreas Creek near Palm Springs | 8.78 | 1948- | USGS | 8/31/54 | 7.11 | 1,960 | 11/22/65 12/29/65 | 3.74 2.48 | 1,000 ^e 56 |
| Deep Creek near Palm Desert | 30.6 | 1962- | USGS | 7/26/64 | 2.66 | 52 | 11/23/65 12/29/65 | 5.15 3.65 | 1,300** 168 |
| Alpes Creek near Yucca Valley | 15.1 | 1958- | USGS | | | | 11/23/65 12/29/65 | 1.85 3.52 | 10 ^e 350** |
| Lushenbury Creek near Lucerne Valley | 6.36 | 1957- | USGS | 3/11/58 | 1.90 | 35 | 11/23/65 12/29/65 | 2.35 - | 250** 0 |

LEGEND

- (a) USWB - United States Weather Bureau
 USCE - United States Corps of Engineers
 USGS - United States Geological Survey
 USBR - United States Bureau of Reclamation
 DWR - Department of Water Resources
 PG&E - Pacific Gas and Electric Company
 b - Site and/or datum then in use
 c - Affected by storage and/or diversion
 d - Discharge over weir
 e - Estimated
 f - Includes flow through powerhouse
 g - Includes flow bypassing station
 h - From flood marks
 j - Crest stage gage
 k - Discharge not determined; affected by backwater
 m - Maximum observed
 n - From DWR telemetering log
 p - Due to failure of partially completed Hell-Hole Dam
 r - Revised
 * - Incomplete record
 ** - Maximum of record



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